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ABSTRACT BOOK



This activity is an Accredited Group Learning Activity (**Category 1**) as defined by the Qatar Council for Healthcare Practitioners – Accreditation Department and is approved for a maximum of **20:75** hours

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Section I

Abstracts selected for:

Oral Presentations (OP)

- **Clinical Studies (CS)**
- **Quality Improvement (QI)**

Title: Prediabetes and Older Age Are Risk Factors for Developing New Onset Diabetes After Transplant (NODAT) in Kidney Transplant Recipients in Qatar

Authors: S Thappy, J Kumar, M Farid, E Abuhelaiqa, M Jarman, J Mahmoud, A Hamdi, H Al-Malki, M Alkadi

Affiliations: Department of Nephrology, Hamad Medical Corporation, Doha, Qatar

Background & Aims: The prevalence of diabetes in Qatar is high (17%) and it is the leading cause of End stage renal disease (ESRD). New onset diabetes after transplant (NODAT) increases the risk of cardiovascular disease and infection, reducing graft and patient survival. The aims of this study were to identify risk factors for developing NODAT in our kidney transplantation population and determine the clinical outcomes in such patients.

Materials & Methods: NODAT was defined as fasting plasma glucose ≥ 126 mg/dL on two occasions or Hemoglobin A1c higher than 6.5% at least 3 months post-transplant. Exclusion criteria included recipient age < 18-year-old and post transplantation follow up < 6 months. Risk factors for NODAT were determined using univariate and multivariate analyses.

Results: Among 135 non-diabetic patients transplanted between January 1st, 2012 and December 31st, 2016, 36 patients (26.7%) developed NODAT. Most patients were on steroid-maintenance immunosuppression (90%). The mean follow up was 3.2 ± 1.3 years. Multiple variables were studied to identify risk factors for NODAT such as age, gender, BMI, prediabetes, donor type, acute rejection, hepatitis C, family history, smoking history, etc. Two factors were found associated significantly with NODAT development: older age (OR: 1.08; 95% CI: 1.03-1.12) and prediabetes prior to transplant (OR: 2.68; 95% CI: 1.01-7.10). There was no statistically significant difference between patients who developed NODAT and non-diabetic patients in terms of acute rejection episodes, serum creatinine at 1-year post transplant and at last follow up, and 3-year patient and kidney graft survival.

Conclusions: Older age and prediabetes prior to transplant were associated with NODAT development. Thus, close monitoring of elderly and pre-diabetics and adaptation of steroid-free immunosuppression regimen in such high-risk group may be of worthy consideration.

Title: Real World Use, Effectiveness, and Safety of Dapagliflozin in Patients with Type-2 Diabetes: A Preliminary Analysis of Dapagliflozin Observational Study in Qatar (DOS-IQ) Database

Authors: A-Naser Elzouki*, KShariff**, M Dauleh*, M Abu-Hmaira**, H Ateeq*, H Fatima*, N Bakhsh*, M Waheed*, M Othman*, M Danjuma*, W Ghadban**, M Zirie*, K Dukhan***, K Ashawesh***, S Beer***, T Elhadd***

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Background & Aims: To investigate changes in HbA1c, body weight (BW), systolic blood pressure (SBP), and lipid profile as well as the safety of dapagliflozin in patients with diabetes type-2 (DM-2).

Materials & Methods: Data from 391 patients with DM-2 who initiated dapagliflozin therapy between June 2015 to March 2018 in the three main hospitals of Hamad Medical Corporation-Qatar were evaluated using a large database of Dapagliflozin Observational Study in Qatar (DOS-IQ). Baseline demographic characteristics, treatment with anti-diabetic drugs within 6 months prior to the inclusion and adverse effects were determined using electronic medical records. Documented HbA1c, body weight (BW), SBP, and lipids and renal profile values before and after the inclusion date were analyzed.

Results: The baseline HbA1c in the cohort was $8.67\% \pm 1.6\%$, which dropped to $7.97\% \pm 1.27$ at 6 months ($p=0.0001$). At 12 months and 18 months, the mean HbA1c was also different from baseline: $8.13\% \pm 1.47$ ($p=0.003$) and $8.00\% \pm 1.72\%$ ($p=0.04$), respectively. A similar change was observed when comparing BWs at baseline and 6 months in the studied population ($90.29 \pm 19.6\text{kg}$ vs $89.4 \pm 19.2\text{kg}$, $p=0.001$). The mean weight reduction was further observed when the treatment extended to 12 months ($88.02 \pm 19.15\text{ kg}$, $p=0.021$). A significant reduction in SBP was observed at 6 months when comparing to baseline (131.9 ± 17.3 vs. 128.6 ± 15.7 , $p=0.008$). Total cholesterol dropped significantly at 18 months ($p=0.032$), as did low-density lipoprotein (LDL) ($p=0.045$). Over 18 months, the overall incidence of adverse effects was rare: genital infection 20 (5.1%), urinary tract infection 11 (2.8%), gastrointestinal symptoms 7 (1.8%), and acute kidney injury 1 (0.25%).

Conclusions: Use of dapagliflozin in a real-world clinical setting in Qatar was well tolerated and associated with significant reduction in HbA1c, BW and SBP in patients with type 2 diabetes, comparable to that seen in randomized clinical trials. Unlike previous studies, dapagliflozin significantly reduced total cholesterol and LDL.

Title: Progression of stroke deficits in patients presenting with mild symptoms: The underlying etiology determines prognosis

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Background & Aims: Patients with acute stroke and mild or rapidly improving symptoms frequently show progression. There are no good methods to determine which patient will show progression. We hypothesized that localization based on clinical examination and multi-model imaging might be helpful in determining outcome.

Materials & Methods: We interrogated Hamad Stroke Database to evaluate 90-days outcome in patients with acute ischemic stroke admitted within 4 hours and a NIHSS score of ≤ 6 . Evaluation was based on localization (lacunar or cortical), multi-model imaging abnormalities and whether they received rt-PA. The 90-day mRS was used to determine outcome.

Results: During study period 6381 patients were admitted with acute stroke. Mild stroke within 4 hours was diagnosed in 506 [no thrombolysis: 381 (lacunar: 213; cortical: 168), thrombolysis: 125 (lacunar: 45; cortical: 80)]. The rt-PA treated patients had significantly higher NIHSS (2.94 ± 3.9 versus 1.28 ± 2.46 , $p < 0.0001$), increased risk of complications (16.0% versus 3.9%, $p < 0.0001$) and on average longer hospital stay (6.05 ± 8.1 versus 3.78 ± 3.6 days; $p < 0.001$). In patients with cortical stroke, intracranial arterial occlusions (11.6% vs 3.9%, $p < 0.0001$) and CTP mismatch (22.2% vs 4.4%, $p < 0.0001$) were more frequent in rt-PA treated patients. Discharge mRS (33.6% versus 13.9%, $p < 0.001$) and 90-days mRS (23.2% versus 11.8%, $p = 0.002$) was significantly worse in patients with cortical stroke (rt-PA-treated and untreated patients).

Conclusions: The prognosis in patients with mild stroke depends on lesion location (lacunar versus cortical). Patients who receive rt-PA have significantly larger deficits, increased imaging abnormalities and higher complication rates, explaining the poor prognosis in such subjects.

Title: Use of Virtual Crossmatch Exclusively to Allocate Deceased Donor Kidney Transplant in the State of Qatar

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Background & Aims: Virtual crossmatch (VXM) using Luminex single antigen bead has significantly improved prediction of a negative crossmatch due to its high sensitivity. An actual pretransplant lymphocyte crossmatch such as complement dependent cytotoxicity crossmatch (CDCXM) or flow cytometry crossmatch (FCXM) is typically required; however, it may delay deceased donor renal transplantation (DDRT) and possibly affect allograft outcomes. We evaluated the safety of only using VXM pretransplant without waiting for actual crossmatch to allocate DDRT.

Materials & Methods: In our center, we have initiated a protocol to allocate kidneys from brain-dead deceased donors based on VXM since 2015. 46 DDRT were performed at our center between 2010 to 2017. 21 (45%) recipients only underwent pretransplant VXM, and all were found to have a negative FCXM retrospectively. We evaluated the effect of this protocol on cold ischemia time (CIT), delayed graft function (DGF), acute rejection (AR) within first year post transplant, and graft survival.

Results: There was a significant reduction of CIT by more than 5 hours when FCXM was not done prospectively prior to transplant. 3 out of 25 (12%) patients with prospective FCXM had DGF, while no DGF was observed in retrospective FCXM ($P=0.2$). AR within first year occurred in 4% of prospective vs. 5% retrospective FCXM. 1-year and 3-year graft survival rates were 96% vs. 100% and 92% vs. 88%, in prospective vs. retrospective FCXM, respectively.

Conclusions: Use of pretransplant VXM exclusively for final DDRT allocation decision reduces duration of CIT and may reduce incidence of DGF without increasing risk of AR or affecting graft survival.

CS 5 – OP

Title: Polymorphisms of Tenofovir Disoproxil Fumarate (TDF) transporters and risk of kidney tubular dysfunction in HIV positive patients

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Background & Aims: There are increasing reports of Tenofovir disoproxil fumarate (TDF) induced kidney injury in HIV positive patients on treatment (1). Possession of certain single nucleotide polymorphisms (SNPs) of genes encoding transport proteins involved in the bio-disposition of TDF have been suggested as the underlying mechanism behind this process (2). In this study, we have examined the association between these SNP's, and the risk of kidney tubular dysfunction (KTD) in HIV positive patients.

Materials & Methods: Fifty-eight patients who received TDF were screened for KTD using retinol-binding protein (RBP) concentration in urine. We defined KTD as the top quartile of urinary RBP/creatinine ratio ($> 17 \mu\text{g}/\text{mmol}$), regardless of estimated glomerular filtration or proteinuria. Genotyping of genes encoding transport proteins involved in the disposition of TDF was undertaken using validated Taqman 5' nuclease assays.

Results: Patients with KTD (N=15) had higher current CD4 cell counts, lower eGFR, and were less likely to possess the genotype CC at position 24 of the ABBC2 (MRP2, rs717620) gene. In multivariate analysis, genotype CC at position 24 of the ABBC2 gene was significantly associated with KTD (odds ratio =0.05, 95% confidence interval = 0.003-0.7, $P = 0.027$).

Conclusions: Genotype CC at position 24 of the ABBC2 (MRP2 rs717620) gene was significantly associated with a reduced risk of elevated urinary RBP in HIV positive patients exposed to TDF.

Title: Evaluation of BK virus reactivation Post Kidney Transplantation in Qatar

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Background & Aims: BK virus reactivation post kidney transplantation is a significant cause of graft loss. Incidence of BK virus viuria and viremia (BKV) have been reported to be 30% and 20%, respectively post kidney transplantation (Hirsch 2002 NEJM.) We aimed to evaluate the incidence of BK virus reactivation at our center, graft survival and determine its associated risk factors.

Materials & Methods: We evaluated retrospectively 257 renal allograft recipients transplanted between 2010 to 2015 followed in HMC and underwent BK virus screen. BK virus screen was performed using urine or blood polymerase chain reaction (PCR) routinely post kidney transplant or at time of acute kidney injury. We evaluated incidence and the correlation between BKV with age, gender, diabetes mellitus, induction therapy, maintenance therapy, type of kidney transplantation, prior acute rejection, and degree of mismatch among 50 kidney recipients that got transplanted in Qatar.

Results: Among 257 kidney transplant recipients followed in Qatar, 27 recipients (11%) had positive BKV. 7 out of 50 (13%) kidney allograft recipients transplanted in Qatar were BKV positive. There was no association between BK virus reactivation and the studied variable. Higher portion of recipient who developed BKV had history of acute rejection compared to recipient with no BKV (29% vs. 12%, $P=0.2$). The average time to BK diagnosis from transplantation was 15 ± 7 month. 86% of recipient with BK virus cleared their viremia within an average of 5 ± 5 months. BKV was also observed to have higher proportion of graft loss but not statistically significant (14% vs. 6%, $P=0.2$).

Conclusions: BK virus reactivation is a rare complication post kidney transplant. Our rates of BK viuria or viremia in Qatar are significantly lower to that described in literature. Frequent screening and extending screening beyond first year post kidney transplant by blood or urine PCR may expedite early diagnosis and treatment of BK virus.

Title: Knowledge and practice of high value care among the trainees of Internal Medicine and medical subspecialties in academic healthcare centers of Hamad Medical Corporation, Qatar

Authors: A-Naser Elzouki*, I Abubeker*, J Parambil*, H Chaudhary*, M Amir Waheed*, Ahmed Al-Mohammed*, Dabia Al-Mohannadi*, Anand Kartha*, Ali Rahil*, W Ghadban*, Abdul-latif Alkhal**

Affiliations: *Department of Medicine and **Medical Education, Hamad Medical Corporation, Doha, Qatar

Background & Aims: High value care (HVC) is defined by the American College of Physicians as healthcare that balances clinical benefit with costs and harms with the goal of improving patient outcomes. It is a relatively novel idea in the Middle-East. Opportunities exist to reduce wasteful spending without compromising healthcare quality, henceforth improving overall health outcomes. The aims of this study were to estimate the awareness of HVC among the trainees of Internal Medicine (IM) in the academic healthcare centers of Qatar under HMC and explore how that reflects in their clinical practice. A further aim was to promote HVC culture amongst them.

Materials & Methods: An anonymous electronic survey of 17-questions was distributed among residents and fellows of IM and medical sub-specialties of HMC; focusing on current knowledge and practice of HVC, drivers of overuse of resources and exposure to HVC teaching.

Results: 164 out of 220(74.5%) post-graduate trainees from year 1-7 answered the survey (of which 70% were males). 75(46.7%) of respondents were unaware of HVC concept. A huge some, Of the respondents, 123(75%) didn't know how to find the cost of investigations and treatments, and 78(47.6%) agreed that the major factor contributing to healthcare waste was because of unnecessary use of investigations. However, 72(43.9%) respondents answered that they "sometimes" to "never" incorporated costs into making their clinical decisions. Majority agreed the reason for overuse was defensive medicine, diagnostic uncertainty, inadequate patient follow-up or to satisfy patients' demands. Of the respondents, 93(57%) opted for a workshop/course to learn more about HVC and healthcare waste, 51(31.3%) agreed to include HVC in the curriculum and 58.3% desired faculty performance as role models to improve their practice of HVC.

Conclusions: Knowledge and practice of HVC amongst the medical post-graduate trainees is inadequate at HMC. Interventions are required to increase awareness and promote HVC culture.

QI 1 – OP

Title: Special Care Team (SCT): A dedicated Multidisciplinary Team (MDT) to optimize care for Long-term care medical patients admitted in acute care at a tertiary care academic hospital.

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Background and Aim: Approximately 40 Long-term care (LTC) patients are admitted under Acute care medical teams at HGH, a tertiary academic hospital in Qatar. Challenges included frequent provider turnover, geographical maldistribution, poor communication, suboptimal care and inappropriate resource use. Similar challenges exist globally We implemented a Special Care Team (SCT) in February 2018 to address these issues.

Materials and Method: Multidisciplinary planning was done pre-implementation with physicians, trainees, geriatrics, case management, nursing and allied health. 20 patients were transferred from multiple teams to this single team and geographically localized as feasible. SCT has a dedicated senior physician (Consultant), a junior physician (Specialist), case manager, nurse and residents. Core members meet daily to preround on all patients. Patients are seen at least once a week or more often if needed (previous requirement was monthly). Close collaboration is done with occupational, speech, respiratory and physiotherapists, ID and wound care nurses. MDT meetings are held weekly and Family meetings at least monthly.

Results: 35 patients were cared for since launch (mean age 64 years (range: 17-98), 94% Qatari, 6% Irani; 51% Female, 49% male; mean length of stay of current (20) patients: 1349 days (range: 72-1848)). Frequent provider turnover was eliminated and geographical maldistribution greatly reduced. 94% patients had family meetings in 4 weeks compared to 33% previously. Family members of 94% of patients felt improvement. In 9 months prior to SCT, there were 15 patient complaints while in the following 7 months there were 2 complaints. Tracheostomy Care Bundle, dietary modification, mobilization project, Contracture prevention program and ROM (Range of Movement) therapy initiated. At least one unnecessary medication was stopped for 69% patients. Unnecessary investigations were stopped for 67% patients. 5 patients were discharged.

Conclusions: Implementation of a SCT has improved quality of care of LTC patients admitted in an acute care setting at a tertiary care academic hospital.

Title: In-patient management of community-acquired pneumonia (CAP) at Hamad General Hospital (HGH), Qatar

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Background: Pneumonia is the fourth commonest cause of death worldwide with estimates mortality rate of 2.74 million in 2015, and it remains a significant cause of mortality and morbidity in all age groups.

Aim: To compare the In-Patient management of CAP at HGH with local and international standards (British Thoracic Society Guideline 2016). We studied admission criteria, investigations, in-patient therapy and follow up plan.

Results: We studied 100 patients who were diagnosed and managed as CAP between Jan' 2017 to April' 2018 at Hamad General Hospital. Median age was 50years. Median length of stay was 4 days. Cough (91%) and Fever (84%) were the most common presenting symptoms. Smoking history was documented for 24 (24%) patients.

All patients had CXR to diagnose CAP consistent with BTS guidelines. 83% had CRP checked (Median 143) on admission while 49% (Median 73) on discharge. CURB65 score was documented in 61%. 73% of patients had mild CAP (CURB65 of 0 or 1) while 21% had moderate CAP (CURB65 of 2) and 6% had severe CAP (CURB65 3 or above).

91% had blood cultures taken and 85% had viral screen done on admission.

11 different antibiotic regimens were used, 84% patients received Ceftriaxone and Azithromycin, which is the standard of care.

No patient was referred to smoking cessation clinic and CXR was repeated in only 34% patients to confirm full resolution.

Conclusions: We are largely following the BTS guidelines for CAP. There are areas for improvement specially investigations for mild CAP and arranging follow-up care.

We recommend:

- 1) Training and teaching of residents regarding local and international Pneumonia guidelines.
- 2) Avoiding unnecessary admissions and investigations for mild CAP would improve patient flow and decrease burden on hospital resources.
- 3) Improve follow up plan regarding repeating CXR to confirm full resolution and referring patients to smoking cessation clinic.

Title: Knowledge and practices of colorectal cancer early detection examinations in Jordan: A cross sectional study

Author: H Taha

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Background: Globally, colorectal cancer (CRC) is ranked the third most common cancer among men and the second in women. The American Cancer Society recommends that starting from age the 50 years, both men and women should have screening tests to find polyps and for early detection of CRC. In Jordan CRC is the number one cancer among males and the second most common cancer among females. This study aims to assess the knowledge and practices of CRC early detection tests and the barriers and motivators of screening in Jordan.

Methods: A semi-structured questionnaire and face-to-face interviews were conducted with 300 males and 300 females recruited using stratified clustered random sampling technique from four governorates in Jordan. The participants were aged 30 to 65 years without a previous history of CRC. Descriptive and multivariate analyses were used to assess knowledge and practices of CRC early detection tests.

Results: Over all there were Low knowledge and practices of CRC early detection tests. Better knowledge and practices were significantly associated ($P \leq 0.05$) with previously consulting a doctor because of symptoms and worries from CRC or having a doctor's recommendation to do CRC testing or having a higher knowledge about CRC signs and symptoms.

Conclusions: This study indicates that there is a need for creating awareness about CRC early detection tests in Jordan especially among those aged 50 years and above and those who have a family history of the diseases. Additionally, it is important to educate and encourage physicians to recommend CRC testing for patients that are at higher risk of the disease.

Title: Evaluation of Clinical Effectiveness and Safety of Direct Oral Anticoagulants: QAtar Registry on Direct oral anticoagulants (QARD-registry)

Author: H Elewa*, A-Naser Elzouki**, **A Mohammed**, A Mahfouz***, E Soaly****, E Al-Madhoun**, M Al Bakri**, M Al Hail*****, E Al Hmoud****, O Abdel- Samad****, N Asaad***

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For the past 70 years, warfarin has remained as the cornerstone oral anticoagulant for most thromboembolic disorders and prothrombotic states that require anticoagulation. However, a change in the oral anticoagulation landscape occurred when direct oral anticoagulants (DOACs) were introduced to the clinical practice in 2010. Compared to warfarin, DOACs provide more predictable therapeutic effect with a fixed-dose regimen, cause less bleeding, do not require routine monitoring, and have less clinically relevant drug-drug and drug-food interactions. All current clinical guidelines include DOACs as first-line or alternative treatment for venous thromboembolism treatment and prophylaxis as well as for stroke prevention in atrial fibrillation. In Qatar, dabigatran was introduced in 2011 followed by rivaroxaban in 2014. Published work by our group has shown that by 2015 DOACs users (dabigatran and rivaroxaban) reached about 25% of all oral anticoagulant users in Qatar. Despite being adopted in clinical practice, real-life data on DOACs in clinical practice and head-to-head comparisons between DOAC agents are very scarce. Hence, we sought to conduct this 5-year longitudinal cohort registry of patients taking DOACs in Qatar. The purpose of this registry is to determine the real-life management, adverse drug reactions and outcomes of patients treated with DOACs in Qatar.

Section II

Abstracts selected for:

Poster Presentations (PP)

- **Clinical Studies (CS)**
- **Quality Improvement (QI)**

CLINICAL STUDIES – POSTER PRESENTATIONS

(CS – PP)

Title: Switching to Insulin Degludec from Insulin Glargine U100 Improves Glycemic Control in People with Type 1 (T1D) or Type 2 diabetes (T2D) in a Real-World Setting

Authors/Affiliations: Abdel-Naser Elzouki¹ *"Presenting on behalf of the author group"*, Soren T. Knudsen², Nikolaos Tentolouris³, Bernd Schultes⁴, Annunziata Lapolla⁵, Markus Eidenmueller⁶, Rudolf Prager⁷, Andrei-Mircea Catargiu⁸, Michael L. Wolden⁹, Thorsten Siegmund¹⁰.

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Abstract

Background: EU-TREAT (NCT02662114), a European, multicenter, retrospective chart review study investigated the clinical impact of switching from any basal insulin to insulin degludec (degludec). This analysis aimed to evaluate the effectiveness of degludec after switching from insulin glargine 100 units/mL (glargine U100), under routine care.

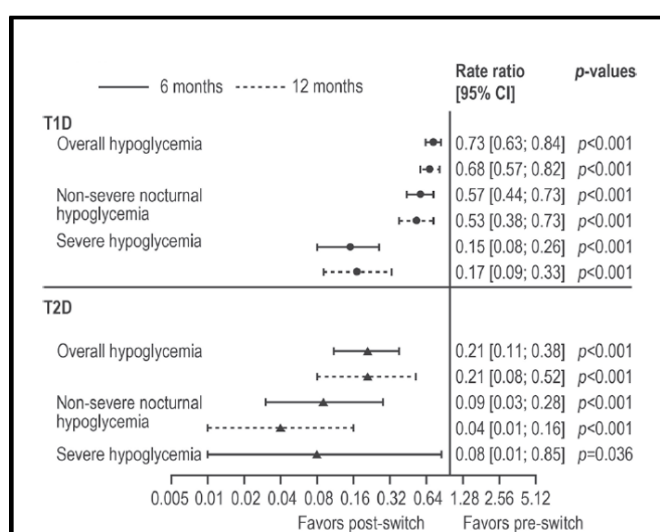
Methods: Patients with T1D or T2D were switched, based on clinical judgement, from glargine U100 to degludec at least 6 months before data collection. Baseline was defined as the most recent recording during the 3-months pre-switch period. Outcome data were collected at 6 ± 3 months and at 12 ± 3 months pre- and post-switch.

Results: Both HbA1c and fasting plasma glucose (FPG) decreased significantly in patients with T1D (n=889) or T2D (n=259) at 6- and 12-months post-switch vs. pre-switch (all p<0.001, except for FPG at 12-months post-switch in T2D, p=0.023). Daily insulin dose decreased significantly in patients with T1D at 6- and 12-months post-switch vs. pre-switch (both p<0.001), but remained unchanged in patients with T2D. Hypoglycaemia was significantly lower (all p<0.05) post switch vs. pre-switch (**Figure**).

Conclusions: Switching to degludec from glargine U100 significantly reduces HbA1c and risk of hypoglycaemia under routine care.

Figure. Hypoglycemia rate ratios for patients with T1D or T2D post-versus pre-switch

Hypoglycemia: overall (recorded by the physician/nurse), non-severe Nocturnal (non-severe episodes captures by the words 'nocturnal', 'night' or their equivalent in the report) or severe (requiring the assistance of another person)
CI, confidence interval; T1D, type 1 Diabetes; T2D, Type 2 Diabetes



Supported By: Novo Nordisk A/S

Title: Th1/Th2 profile in patients with Hashimoto's thyroiditis by flowcytometric analysis of CD4+ T lymphocytes

Authors: M Gamaleldin*, Z Mourad**, G Elbassiouny**, W Elgendy**, A Mansour

Affiliations: *Medical Laboratories Qatar, Doha, Qatar, **Alexandria University

Background & Aims: Hashimoto's thyroiditis (HT) results from the parenchymal infiltration of the thyroid gland, by Th1 T cell clones that ultimately cause tissue destruction. In this study, we evaluated the cytokine profile in a group of patients with Hashimoto thyroiditis.

Materials & Methods: Blood samples were cultured for 4 hours, in the presence of phorbol myristate acetate (PMA), a potent mitogen for human peripheral blood lymphocytes, and Brefeldin A to inhibit the release of the cytokines from the cells. Cells were harvested and stained with fluorescently labeled anti- CD4 monoclonal antibodies to identify the T helper population as well as intracellular anti IFN γ and anti IL4 cytokine specific monoclonal antibodies in order to identify Th1 and Th2 respectively. By using flow cytometry and gating on the lymphocyte population, the percentages of Th1 and Th2 cells were identified as the proportion of IFN γ and IL4 positive cells respectively among the CD4+ T helper cells.

Results: Twenty (20) adult female patients were selected based on the detection of serum anti thyroid peroxidase antibodies (Anti TPO) concentration equal to or higher than 600 IU/L. They were compared to ten (10) age and sex matched healthy control females with undetectable anti TPO antibodies. A significant difference in Th1 CD4+ and Th1/Th2 ratio was detected between both groups. This ratio was significantly higher in HT patients when compared to controls with a median of 20.22 versus 9.09 respectively ($p=0.035$).

Conclusions: Our data indicated that circulating Th1 CD4+ cells secreting IFN γ are significantly higher in the peripheral blood of HT patients.

Title: Prevalence, Diagnosis and Risk Factors of Urogenital Tuberculosis (UGTB) in Qatar: A Population-Based Retrospective Study

Authors: M Badawi, Z Alamer, A Hussain, H Ziglam, F Howaudi, H Alsoub, M Almaslamani, A Alkhal, M Abukhattab

Affiliations: Department of Infectious diseases, Hamad General Hospital, Doha, Qatar

Background & Aims: Urogenital tuberculosis UGTB, it is often an overlooked disease by clinician. UGTB should be cured by antibacterial therapy, but because of late diagnosis it may often require surgery. This is a population based retrospective study conducted at the National Tuberculosis Registry in Qatar. The study aims to unveil the prevalence of disease in Qatar and to address the major concerns for current method of diagnosis and related risk factors.

Materials & Methods: All cases of UGTB registered in the National TB Registry program from Jan 2005 to Dec 2015, containing 71 records were retrieved, 56 were males and 15 females. Patient's records were reviewed retrospectively. Data collected regarding demographics, medical histories and diagnostic tests. The statistical package for social science (SPSS) for windows was utilized for data processing. Quantitative data were shown processing as frequency and percentage.

Results: A 71 cases of Urogenital tuberculosis were reported; 20 patients (28.0%) had renal and urologic tuberculosis; 44 patients (62.0%) had male genital tract tuberculosis and 7 patients (10.0%) had female genital tract tuberculosis. There were 2 (2.8%) patients diabetics and 1 (1.4%) patient was post renal transplant. All patients were tested for acid fast bacilli smear from urine; 32 (45.0%) patients had a positive result. A 38 (53.5%) patients underwent biopsies for histopathological testing from different sites; 27 (71.0%) patients had necrotizing granuloma; 8 (21.0%) patients had a positive result for Ziehl Neelsen stain and 3 (7.9%) patients had negative results.

Conclusions: The study showed that half of the patient underwent biopsies to reach the diagnosis. Development of a new urine diagnostic tests is warranted to increase the yield of detecting acid-fast bacilli in urine, which will have a great impact on facilitating the diagnosis, decreasing the needs for invasive procedure to take the biopsy for diagnosis and improving the disease outcome.

Title: Concordance between Urinary KIM-1 and markers of Kidney injury in HIV positive patients exposed to anti-retroviral therapy (ART) drugs: AN analysis of DETIKI study cohort

Authors: M Danjuma*, N Bakhsh*, S Al Shokri*, I Tamuno**

Affiliations: *Department of Medicine, Hamad General Hospital, Doha, Qatar, **Pharmacology research laboratories, the University of Liverpool, Liverpool, UK

Background & Aims: There are increasing reports of anti-retroviral therapy (ART) drug related kidney dysfunction. Traditional markers of kidney dysfunction such as urine protein/creatinine ratio (PCR), and eGFR have thus far proven ineffective at detecting some subclinical forms of ART related kidney injury.

Materials & Methods: This is a cross-sectional examination of 114 HIV positive patient cohorts “on” (N =104), and “off” (N =10) ART drugs. Urinary KIM-1 (ng/mg) thresholds were estimated using electrochemiluminescent assays from stored urine samples and normalised for urinary creatinine excretion (KIM-1/Cr). Comparative receiver operating curves were derived for KIM-1/Cr and other traditional markers of kidney injury such as eGFR, serum creatinine and urine PCR, and upper tertile KIM-1/CR (ng/mg).

Results: HIV positive patients both “on” and “off” ART drugs had a higher baseline adjusted median (≥ 3.7 ng/mg), upper tertile (≥ 6.25 ng/mg) urinary KIM-1/Cr levels compared to either non-HIV positive normal volunteers (0.39 ng/mg), or those with acute kidney injury in the general population (0.57 ng/mg). By ROC analysis, KIM-1/Cr (ng/mg) had a higher AUC (0.67) compared to either serum creatinine (0.64), or eGFR (0.31) in identifying patients with kidney injury. When upper tertile KIM-1/Cr (≥ 6.25 ng/mg) was utilised as a marker of kidney injury, eGFR (mls/min/1.73m²), White Caucasian ethnicity, and protease inhibitor exposure were significantly associated with increased risk of kidney injury in multivariate analyses (Odds ratio 0.91, CI 0.68-0.98, P = 0.02; odds ratio 8.9, CI 1.6-48.6, p = 0.01; and odds ratio 0.05, CI 0.03-0.9, p = 0.04 respectively)

Conclusions: We found a significant degree of subclinical kidney injury (high median and upper tertile KIM-1/Cr) in HIV positive patients with normal kidney function (eGFR ≥ 60 mls/min/1.73m²). We also found a high baseline KIM-1/Cr (ng/mg) in our study cohort than reported both in normal volunteers and patients with kidney injury in the general population.

Title: The Impact of Diabetes on outcomes after acute ischemic stroke- A prospective observational study

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Background & Aims: Stroke in diabetics may delay recovery and increases the risk of early recurrence of stroke. We compared the outcomes of patients (with and without diabetes) admitted with an acute ischemic stroke (AIS) in the state of Qatar.

Materials & Methods: We prospectively compared the clinical presentation, complications, discharge outcome and stroke recurrence at 90-days in patients with and without diabetes.

Results: 5,228 stroke patients were admitted between January-2014 and December-2017. 2961 had confirmed AIS, 1695(57.2%) had diabetes, 429(14.5%) had pre-diabetes and 873 (29.5%) had no diabetes. Comparing diabetic patients to pre-diabetic and non-diabetics, they were significantly older (58.5 ± 11.9 vs. 54.0 ± 12.9 vs. 49.5 ± 13.8 , $p=0.0001$), had higher rates of hypertension (80.8% vs. 67.4% vs. 59.2%), previous stroke (18.0% vs. 5.4% vs. 6.2%) and coronary artery disease (12.9% vs. 5.6% vs. 5.0%) ($p=0.001$ for all). The percentage of patients with mRS 3-6 at discharge (39.7% vs. 32.6% vs. 30.2%; $p=0.0001$) and 90-days (26.7% vs. 18.8% vs. 21.4%, $p=0.001$); 90-day mortality (6.2% vs. 2.2% vs. 5.2%; $p=0.03$) and stroke recurrence (4.2% vs. 0.7% vs. 2.2%; $p=0.005$) was significantly higher in diabetic patients.

Conclusions: Patients with diabetes and AIS have more in-hospital complications, worse discharge outcomes, higher mortality and stroke recurrence at 90-days, compared to prediabetes and no diabetes.

Title: Efficacy of Semaglutide vs Dulaglutide across Baseline HbA_{1c} in SUSTAIN 7

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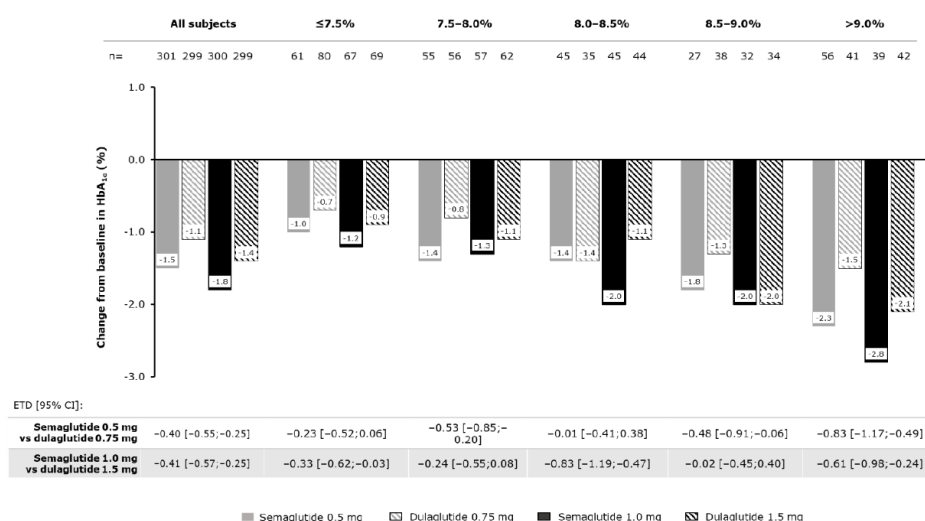
Background: Semaglutide, a new GLP-1 analog for T2D, showed significant and clinically meaningful HbA_{1c} and body weight (BW) reductions across SUSTAIN clinical trial program.

Methods: This *post hoc* analysis of the phase 3b SUSTAIN 7 trial evaluated once-weekly subcutaneous semaglutide 0.5 mg vs dulaglutide 0.75 mg and semaglutide 1.0 mg vs dulaglutide 1.5 mg by baseline (BL) HbA_{1c} subgroups in subjects with T2D.

Results: At week 40, improvements in HbA_{1c} (Figure 1) and BW were similar or favoured semaglutide vs dulaglutide across subgroups (p-value for interaction: HbA_{1c}, p<0.03; BW, p>0.05); estimated treatment effects were similar or favoured semaglutide. More subjects with BL HbA_{1c} >9% achieved HbA_{1c} targets with semaglutide vs dulaglutide (Figure 2).

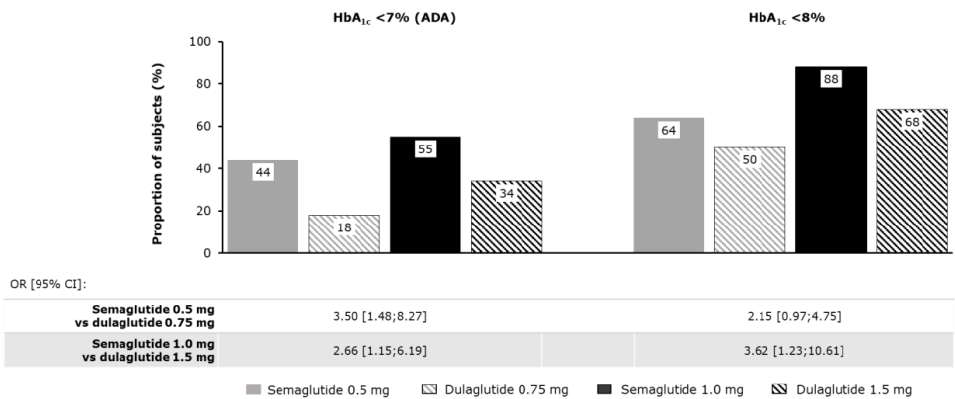
Conclusions: Semaglutide was associated with similar or greater HbA_{1c} and BW reductions vs dulaglutide in all subjects regardless of BL HbA_{1c}.

Figure 1. HbA_{1c} change from baseline (percentage points) at week 40 in SUSTAIN 7 in all subjects and by baseline HbA_{1c}.



'On-treatment without rescue medication' data. The post-baseline responses for 'all subjects' were analyzed using an MMRM with treatment and country as fixed factors and baseline value as covariate; subgroups were analyzed with treatment and baseline HbA_{1c} subgroup as fixed factors, interaction between treatment and baseline HbA_{1c} subgroup, and baseline HbA_{1c} (%) as covariate, all nested within visit. Mean estimates were adjusted according to observed baseline distribution in each subgroup. CI, confidence interval; ETD, estimated treatment difference; MMRM, mixed model for repeated measurements; n, number of subjects contributing to analyses at end of treatment.

Figure 2. Proportion of subjects with baseline HbA_{1c} >9% achieving HbA_{1c} targets at week 40 in SUSTAIN 7



'On-treatment without rescue medication' data. Missing HbA_{1c} (%) data were imputed from an MMRM with treatment and country as fixed factors and baseline value as covariate, all nested within visit. After imputation, continuous HbA_{1c} (%) data were dichotomized according to each HbA_{1c} target. The binary endpoints were analyzed using a logistic regression model with treatment and baseline HbA_{1c} group as fixed factors, and treatment, baseline HbA_{1c} group interaction, and baseline value as covariates. ADA, American Diabetes Association; CI, confidence interval; MMRM, mixed model for repeated measurements; OR, odds ratio.

Title: Clinical Outcome Assessment of the Effectiveness of Insulin Degludec (Degludec) in Real-life Medical Practice (CONFIRM)—A Comparative Effectiveness Study of Degludec and Insulin Glargine 300U/mL (Glargine U300) in Insulin-Naive Patients with Type 2 Diabetes (T2D)

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Background: The CONFIRM study compared the real-world effectiveness of degludec and glargine U300 in insulin-naive patients with T2D.

Methods: Retrospective, non-interventional comparative effectiveness study used electronic health records of U.S.-based patients from Explorys, with propensity-score matching to balance baseline characteristics between cohorts. The primary endpoint, $\Delta A1C$ from baseline to 6 months follow-up, was estimated using a repeated-measure analysis with subject as random effect. Rate of hypoglycemic episodes (defined using International Classification of Diseases codes 9/10) and proportion of patients with hypoglycemia were estimated using negative binomial and logistic regression, respectively. Time-to-discontinuation of basal insulin was analyzed using a Cox Proportional Hazard model. This study included adults with T2D treated with oral antidiabetic drugs, intensified with either degludec or glargine U300.

Results: Data from 4056 patients were analyzed. After matching, baseline characteristics of the groups were comparable (n=2028 in each group). At follow-up $\Delta A1C$ was significantly lower with degludec (−1.5%) vs. glargine U300 (−1.2% [treatment difference, −0.3%, p=0.029]). Rates of hypoglycemia were significantly lower with degludec vs. glargine U300, (rate ratio: 0.70, p=0.045) similarly the proportion of patients experiencing hypoglycemia was significantly lower with degludec (odds ratio: 0.64; p<0.01). Patients treated with glargine U300 had a 37% higher risk of treatment discontinuation vs. degludec (hazard ratio: 1.37, p<0.01).

Conclusions: Data from the largest real-world comparative effectiveness study of degludec and glargine U300 to date, demonstrated improved glycemic control, lower rates of hypoglycemia and risk of discontinuation with degludec vs. glargine U300.

Title: Patients with T2DM Receiving IDegLira have a greater chance of achieving A1C-targets without hypoglycemia and weight gain than with basal-insulin or basal–bolus, irrespective of A1C-target

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Background: Safety and efficacy of insulin degludec/liraglutide (IDegLira) has been compared with insulin glargine 100 units/mL (IGlar U100; DUAL V) and basal–bolus (BB) therapy (IGlar U100 + insulin aspart ≤4-times daily; DUAL VII), in patients with type 2 diabetes (T2D) (A1C 7–10%) on IGlar U100. In both trials, a greater proportion of patients achieved the composite endpoints of A1C <7% without hypoglycemia and/or weight gain with IDegLira vs comparator.

Objective: This *post hoc* analysis explored whether patients receiving IDegLira were more likely to achieve composite endpoints incorporating higher A1C targets (<7.5%, <8%, ≤9%), reflecting cut-offs used in certain clinical practice settings and for quality metrics (e.g. HEDIS).

Methods: DUAL V (N=557) and DUAL VII (N=506) were 26-week, open-label trials. Attainment of A1C targets without weight gain by week 26 and/or without hypoglycemia in the last 12 weeks were analyzed using a logistic regression model with a logit link. Hypoglycemic episodes were those requiring third-party assistance or with plasma glucose <56 mg/dL (both trials) and symptoms (DUAL VII).

Results: In DUAL V, wherein IDegLira resulted in superior A1C reductions, the odds of achieving A1C <7.5% and <8.0% were significantly higher for IDegLira vs IGlar U100. Almost all (>99%) patients achieved A1C ≤9.0%. In DUAL VII, wherein non-inferiority was confirmed for A1C reductions vs BB, similar proportions of patients achieved all A1C targets. The odds of achieving the double composite endpoints of any A1C target without hypoglycemia or without weight gain were significantly higher for IDegLira vs comparator in both trials. In DUAL V, a greater proportion of patients achieved the triple composite endpoint of A1C <7.5%/<8%/≤9% without hypoglycemia and weight gain with IDegLira (47%/50%/53%), compared with IGlar U100 (13%/16%/18%); the odds of achieving these were higher for IDegLira vs IGlar U100 (odds ratios [95% CI]: 5.76 [3.75; 8.83]/5.11 [3.39; 7.69]/5.25 [3.51; 7.85], all *p*<0.0001). In DUAL VII, across all A1C targets, a greater proportion of patients achieved the triple composite endpoint with IDegLira (47%/53%/57%) vs BB (8%/10%/10%); the odds of achieving these were higher for IDegLira vs BB (odds ratios [95% CI]: 10.31 [6.16; 17.23]/10.54 [6.48; 17.14]/11.70 [7.23; 18.94], all *p*<0.0001).

Conclusions: Across a broad range of A1C targets, a greater proportion of patients succeed in achieving A1C targets without weight gain and/or hypoglycemia with IDegLira vs IGlar U100 and vs BB.

Title: Molecular resistance mechanisms of multidrug-resistant *Pseudomonas aeruginosa* isolates to ceftazidime-avibactam and ceftolozane-tazobactam

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Background & Aims: Multidrug-resistant *Pseudomonas aeruginosa* (MDR-PA) infections are a serious clinical challenge due to their resistance to most available antibiotics, limiting the treatment options. Recently, ceftazidime/avibactam (CZA) and ceftolozane/tazobactam (C/T) have been approved for clinical use which demonstrated good activity against Gram-negative bacteria, including MDR-PA. This study aimed to characterize the genetic mechanisms driving resistance to CZA and C/T in MDR-PA.

Materials & Methods: From a total of 205 MDR-PA, 94 isolates were found to be resistant CZA and/or C/T antibiotics, of which 9 isolates (10%) were randomly selected and subjected for whole genome sequencing.

Results: The 9 isolates belonged to 4 different sequence types; ST-292 (n=1), ST-233 (n=1), ST-308 (n=3), and ST-823 (n=1) ST-2613 (n=3). The isolates had between 2 – 4 different β -lactamase genes from all classes. Four isolates had VEB-1a (Class A), 1 isolate had CARB-3, 4 isolates had VIM-2 (Class B), PDC-2, 3, 5, and 7 (Class C) were found in 3, 1, 1, and 4, respectively and OXA-4, 10, and 50 (class D) were found in 1, 2, and 9, respectively. The genes encoding the efflux pump regulators MexR, nalC, and nalD, as well as the efflux pump complexes, MexAB-OprM, MexCD-OprJ, MexPQ-OpmE and MuxABC-OpmB were found in all the isolates, however, the efflux pump regulator CpxR, soxR, and type B NfxB were detected in 7, 6, and 6 isolates.

Conclusions: The presence of 2 or more different β -lactamase genes from all classes, including class B and D, which are known to be poorly inhibited by the β -lactamase inhibitors could explain the resistance of those isolates to CZA and C/T. Additionally, the strains also contained four efflux pump complexes together with the two component regulatory systems that control the expression of the efflux pumps. Further study needs to evaluate individual mechanisms in the various strains.

Title: Antimicrobial susceptibility and molecular epidemiology of extended-spectrum betalactamase-producing Enterobacteriaceae from intensive care units at Hamad Medical Corporation, Qatar

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Background & Aims: The emergence of extended-spectrum beta-lactamase (ESBL)-producing isolates has important clinical and therapeutic implications. High prevalence of ESBL-producing Enterobacteriaceae has been reported in the literature for clinical samples from a variety of infection sites. The present study was undertaken to evaluate the prevalence of ESBL-producing Enterobacteriaceae, and to perform molecular characterization and antimicrobial susceptibility testing of clinical isolates from patients admitted to the intensive care units at Hamad Medical Corporation, Doha, Qatar, from November 2012 to October 2013.

Materials & Methods: A total of 629 Enterobacteriaceae isolates were included in the study. Identification and susceptibility testing were performed using Phoenix (Becton Dickinson) and the ESBL producers were confirmed by double-disk potentiation as recommended by the Clinical and Laboratory Standards Institute. Molecular analysis of the ESBL producers was performed by polymerase chain reaction.

Results: In total, 109 isolates (17.3 %) were confirmed as ESBL producers and all were sensitive to meropenem in routine susceptibility assays. Most of the ESBL producers (99.1 %) were resistant to amoxicillin/clavulanic acid and ceftriaxone and 93.6 % were resistant to cefepime. Among the ESBL-producing genes, blaCTX-M (66.1 %) was the most prevalent, followed by blaSHV (53.2 %) and blaTEM (40.4 %).

Conclusions: These findings show the high prevalence of ESBL-producing Enterobacteriaceae within the intensive care units at Hamad Medical Corporation, Qatar, and emphasize the need for judicious use of antibiotics and the implementation of strict infection control measures.

Title: In Vitro Susceptibility of Multidrug-Resistant *Pseudomonas aeruginosa* to Ceftazidime/avibactam and Ceftolozane/tazobactam Combinations in Qatar

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Background & Aims: The problem of multidrug-resistant *Pseudomonas aeruginosa* (MDR-PA) infections is a global healthcare challenge. Surveillance monitoring in Qatar established significant prevalence of MDR-PA. Collected isolates were testes against novel treatment options; Ceftazidime/avibactam (CZA) and ceftolozane/tazobactam (C/T), which has been approved for treatment of complicated gram-negative infections.

Materials & Methods: A total of 205 MDR-PA isolates were collected between 2014 and 2015 from four hospitals in Qatar. The pathogens were isolated from: respiratory 44.9% (92), skin-soft tissues 26.3% (54), urine 23.4% (48), blood 3.4% (7) and other sites 2% (4). The activity spectrum of CZA and C/T were tested in vitro against MDR-PA using E-test according to standard recommendations.

Results: MDR-PA demonstrated favorable susceptibility to both CZA and C/T, at 68.8% (141/205) and 62.9% (129/205), respectively. Remarkably, 22.4% (46/205) of isolates were non-susceptible highlighting antimicrobial resistance endurance. Cumulative MIC distribution for CZA to both and C/T were MIC50/90, 4/64 µg/ml and MIC50/90, 2/256 µg/ml, respectively. When compared with eight other antibiotics, only colistin demonstrated higher susceptibility at 96.6% (198/205). The comparative results of phenotypically resistant of isolates to other antibiotics and CZA and C/T showed no significant correlation apart from fair agreement between C/T and CZA with amikacin (AMK) (0.37, $p < 0.001$, $k = 0.27$, $p < 0.001$ respectively).

Conclusions: The study demonstrated a promising high in vitro susceptibility of CZA and C/T against MDR-PA isolates in Qatar. The results paved the way for potential future role of CZA and C/T in the management of MDR-PA infections and will be recommended as alternatives to complement existing options hindered by their recognised limitations.

Title: Emergence of Multidrug- and Pandrug- Resistant *Pseudomonas aeruginosa* from Five Hospitals in Qatar

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Background & Aims: A substantial global rise in multidrug-resistant (MDR) nosocomial infections has led to a significant increase in morbidity and mortality. MDR Gram-negative bacteria (GNB) are notable for rapidly becoming pan-drug resistant. Despite *Pseudomonas aeruginosa* being the second most common GNB isolated from healthcare associated infections, the magnitude of MDR *P. aeruginosa* (MDR-PA) has not been characterized in Qatar. The present study aims to assess the prevalence and antimicrobial susceptibility patterns of MDR-PA from 5 major hospitals in Qatar. MDR-PA was defined as resistance to at least one antibiotic from ≥ 3 antibiotic classes.

Materials & Methods: A total of 2533 *P. aeruginosa* clinical isolates were collected over a 1-year period. Clinical data were collected prospectively for demographic and clinical characteristics.

Results: The overall prevalence of MDR-PA isolates was 8.1% (205/2533); the majority were exposed to antibiotics during 90 days prior to isolation (85.4 %, 177/205), and the infections were mainly hospital acquired (95.1%, 195/205) with only 4.9% community acquired. The majority of MDR-PA isolates were resistant to cefepime (96.6%, 198/205), ciprofloxacin and piperacillin/tazobactam (91%, 186/205), and meropenem (90%, 184/205). Patient comorbidities with MDR-PA were diabetes mellitus (47.3%, n=97), malignancy (17.1%, n=35), end-stage renal disease (13.7%, n=28) and heart failure (10.7%, n=22).

Conclusions: There was a significant prevalence of MDR-PA in Qatar, primarily from healthcare facilities and associated with prior antibiotic treatment. There was also an alarming level of resistance to carbapenems. Our results will be part of a national surveillance of MDR to establish an effectual antibiotic stewardships program.

Title: Sputum and plasma adiponectin levels in clinically stable adult cystic fibrosis patients with CFTR I1234V mutation

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Background & Aims: Background: Cystic fibrosis (CF) lung disease is associated with chronic inflammation leading to a decrease in lung function. Adiponectin is a predominantly anti-inflammatory adipokine that may have a role in CF lung.

Aims: To determine total sputum and total plasma adiponectin levels in clinically stable adults CF patients with CFTR I1234 V mutation, compared to plasma adiponectin levels in healthy controls and to investigate their correlations with BMI and lung function in patients with CF.

Materials & Methods: A cross-sectional study comprises 17 CF patients and 18 healthy controls. Adiponectin levels were measured by magnetic bead-based multiplex assay.

Results: The mean age of adult CF patients was 22.9 years \pm 3.8 (18-30) and 13/17 (76.5%) CF patients had pancreatic sufficiency. The mean BMI in healthy controls was higher than BMI in CF patients but statistically insignificant. The mean sputum adiponectin level was significantly lower than plasma adiponectin levels in CF patients and healthy controls ($p < 0.001$), whereas no difference in plasma adiponectin levels between CF patients and healthy controls. The mean sputum adiponectin level was higher in CF patients with pancreatic insufficiency versus CF patients with pancreatic sufficiency. Sputum adiponectin level was correlated positively with plasma adiponectin level in CF patients ($r = 0.47$, $p = 0.06$). Sputum and plasma adiponectin levels in CF patients were correlated inversely with BMI and weakly inversely with spirometric parameters percentage predicted FEV1 and FVC.

Conclusions: Sputum adiponectin may provide a minimally invasive tool in the assessment of an inflammatory status in CF patients. Further larger study to address any difference in sputum and plasma adiponectin levels among CF patients with pancreatic sufficiency versus pancreatic insufficiency.

Title: Predictive value of Procalcitonin in Pneumonia

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Background & Aims: Hospitalised patients with Community acquired pneumonia (CAP) have a 30% risk of mortality. Diagnosis is often complex. Various biomarkers have been studied. Published data is not clear on the utility of procalcitonin to predict severity. We conducted a retrospective study comparing procalcitonin levels with validated physiological CURB -65 severity score.

Materials & Methods: All patients who had procalcitonin level from December 2012 to October 2014 who presented to Al Wakra Hospital Qatar were included. Data collected were demographics, procalcitonin level, CURB-65 score, PaO₂, PaCO₂, Lactic acid and serum creatinine levels. Data was analysed with SPSS (v22). Spearman's and Pearson's correlations analysis were used where appropriate.

Results: Number of patients 113, 15 excluded as tested positive viral pathogens. Mean age was 45, Male Vs Female 78 Vs 21. Procalcitonin vs Curb-65 = $r_s = 0.386$, $n=98$ $p=0.0001$. Procalcitonin vs PaO₂ = $r = 0.179$, $n=48$ $p=0.224$ $n=48$. Procalcitonin vs PaCO₂ $r = -0.124$, $n=48$ $p=0.403$. Procalcitonin vs Lactic acid $r = 0.594$, $n=60$ $p=0.0001$, Procalcitonin vs Creatinine = $r = 0.215$, $n=99$ $p=0.033$.

Conclusions: There was no clinically significant co-relation with Procalcitonin and severity score. The only moderate correlation was with lactic acid levels. Our data suggest that whilst procalcitonin may be useful for diagnosing sepsis, level of Procalcitonin rise does not correlate with severity of CAP. A prospective randomised control trial will be needed to explore the use of this biomarker in CAP.

Title: A Comparison of 10 and 14 Days of Triple Therapy Versus 10 Days Sequential Therapy for Helicobacter Pylori Eradication: A Prospective Randomized Study

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Background & Aims: The aim of the study is to compare the efficacy and tolerability of a sequential therapy (ST) as a first-line treatment for adults having Helicobacter pylori infection with standard triple therapy (TT).

Materials & Methods: This is a prospective randomized open-label, single-center study. We enrolled 206 patients randomized into 3 treatment groups: Group A (Pantoprazole 40 mg bid (twice daily), amoxicillin 1 gm bid and clarithromycin 500 mg bid for 10 days), Group B (the same TT as Group A for 14 days), and Group C (Pantoprazole 40 mg bid and amoxicillin 1 gm bid for 5 days followed by Pantoprazole 40 mg bid, clarithromycin 500 mg bid, and metronidazole 500 mg bid for an additional 5 days).

Results: Intention-to-treat (ITT) analysis revealed 14 days TT achieved a higher eradication rate than 10 days of ST (54.8% vs 50.7%) but it was not statistically significant ($p=0.623$); whereas 10 days of TT achieved 45% eradication. Per protocol (PP) analysis showed the success rate for 10 days of ST was more than that achieved in the 10 days of TT (70.6% vs 65%, $p=0.571$); however, 10 days of TT did not have a statistical difference from that of 14 days of TT. The eradication rates achieved in ITT analysis were lower than those of PP analysis for 10 days TT (45% vs 65%) or 14 days TT (54.7% vs 69%) or 10 days ST (50.7% vs 70.6%). There was no statistically significant difference. Adverse effects and compliance were not significantly different between the 3 groups.

Conclusions: Neither 10 days of ST nor 14 days of TT achieved the optimum H. pylori eradication rate.

Title: Rheumatic manifestations of inflammatory bowel diseases: A study from the Middle East

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Background & Aims: To examine the prevalence of rheumatic manifestations among patients with inflammatory bowel disease (IBD).

Materials & Methods: This prospective study enrolled patients with IBD in whom the diagnosis and extent of IBD were confirmed by colonoscopy and histopathology. Patients were interviewed and examined by a rheumatologist. A complete rheumatological examination, X-rays of the lumbosacral and sacroiliac joints and HLA-B27 blood tests were performed.

Results: A total of 127 adult patients were recruited: 46 (36.2%) with Crohn's disease (CD) and 81 (63.8%) with ulcerative colitis (UC). Rheumatic manifestations of any type were present in 57.5% (73 of 127 patients) with no significant differences between CD and UC. Peripheral manifestations were present in 43.3% (55 of 127 patients), four patients (3.1%) had axial arthritis alone and 14 patients (11.0%) had both types. Among those with peripheral manifestations, five patients (7.2%) had type 1 arthritis (pauciarticular) and one patient (1.4%) had type 2 arthritis (polyarticular). A higher proportion of patients with CD had axial manifestations with or without peripheral manifestations (eight of 46; 17.4%) compared with patients with UC (10 of 81; 12.3%), but no difference was observed in patients with peripheral manifestations alone.

Conclusions: Rheumatic manifestations in patients with IBD in Qatar are more prevalent than in other regions of the world. Peripheral manifestations were more prevalent than axial.

Title: Cost-effectiveness of colchicine treatment on post-operative atrial fibrillation events in patients of major cardiac surgery

Authors: M Barman*, C Lennerz**, M Tantawy***, M Sopher****

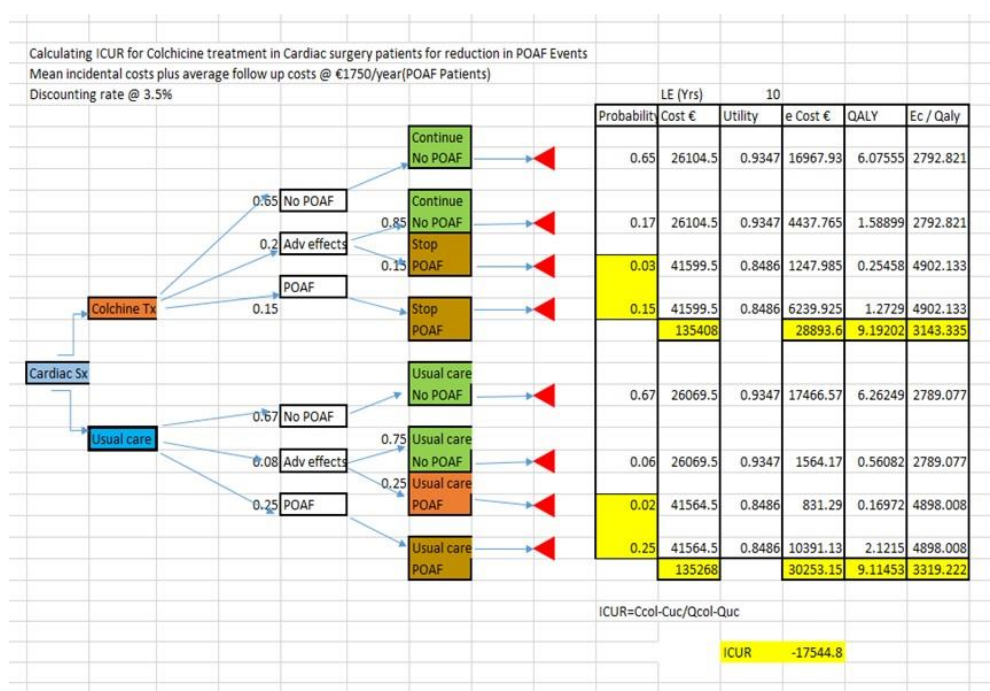
Affiliations: *Department of Medicine, Hamad Medical Corporation Doha, Qatar, ** German Heart Centre Munich / Deutsches Herzzentrum München, ***Misr University for Science and Technology, ****Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust, UK

Background & Aims: Post-operative atrial fibrillation (POAF) occurs in 20–50% of patients amid post-operative stay after Cardiac Surgery. We intend to determine whether colchicine therapy in patients undergoing cardiac surgery is a cost-effective strategy for prevention of POAF. We aim to undertake cost utility analysis and calculate incremental cost utility ratio (ICUR) for colchicine therapy in this subgroup of patients.

Materials & Methods: Decision tree model was populated to calculate the incremental cost utility ratio (ICUR) comparing two treatment strategies in patients undergoing cardiac surgery. One group received colchicine along with usual care and the second where they received placebo or just usual care. Data Sources and cost assumptions: Cost utility analysis was undertaken using relevant data from the systematic review and meta-analysis of the available RCT's till June 2016 and mean cost calculations from validated available sources across various jurisdictions. Target population: Patients undergoing cardiac surgery with no prior history of atrial fibrillation. Perspective: Provider. Intervention: Colchicine regime added to usual postoperative care vs placebo and/or usual post-operative care.

Results: Colchicine treatment based on mean costs for life expectancy calculated at 10 years' post-surgery using recommended discounting rates of 3.5% was €17544.80 cheaper per quality-adjusted life-year (QALY) gained. The incremental cost is negative and the incremental effect (QALY) is positive (South East quadrant), Hence the intervention of colchicine treatment is unequivocally cost-effective, meaning it is dominant and achieves better outcomes at a lower cost.

Conclusions: Our findings provide a benchmark for current and future analyses relating to effectiveness of colchicine on POAF events after cardiac surgery. Currently, there are few reports that provide cutting edge estimates of the higher expenses associated with POAF. Future analyses should likewise explore the impact of added costs from using pharmacologic efforts to prevent and treat POAF after cardiac surgery.



Title: Role of fiberoptic bronchoscopy in the rapid diagnosis of sputum smear-negative disseminated tuberculosis with pulmonary miliary infiltrates

Authors: F Khan

Affiliations: Department of Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: There are few reports that address the role of bronchoscopy in the rapid and early diagnosis of disseminated tuberculosis (TB). The aim of this study was to evaluate the role of bronchoscopy related procedures such as bronchoalveolar lavage (BAL), bronchial wash (BW), transbronchial biopsy (TBB), and post-bronchoscopy sputum, alone or in combination, in the rapid diagnosis of negative sputum smear disseminated TB.

Materials & Methods: We performed a secondary post hoc analysis of collected data from our previous study entitled “Disseminated tuberculosis among adult patients admitted to Hamad General Hospital, Qatar: A five-year hospital-based study” with a modified objective.

Results: We identified 27 patients. BAL fluid was positive for acid fast bacilli (AFB) smear in 7/27 (26%) patients and were culture positive for *M. tuberculosis* in 17/27 (63%) cases, while BW collections were smear positive in 9/27 (33.3%) cases and culture positive for *M. tuberculosis* in 18/27 (66.7%) cases. TBBs showed caseating granulomas in 10/16 (62.5%) cases and non-caseating granuloma were found in 1/16 (6.3%) patient. Post bronchoscopy sputum was positive for AFB in 4/8 (50%) patients. The combination of these procedures enabled us to diagnose disseminated TB rapidly in 22 (81.5%) cases.

Conclusions: Bronchoscopy proved to be effective method for the rapid diagnosis of disseminated TB in patients in whom sputum smear microscopy was negative.

Title: Health Technology Assessments – Evidence based approach for a sustainable future of healthcare.

Authors: M Barman

Affiliations: Department of Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Health Technology Assessments (HTA) are being increasingly used to guide and advise both pioneers and strategy creators for arrangement and delivery of medical services. This has been an after-effect of affirmation that resources are restricted, and consequently technologies need appraisals on standards past scientific favorability alone.

Materials & Methods: Precise audit of clinical data for the technology and its comparators including a systematic search strategy and progression of a “Quality of Reporting of Meta-Analysis” (QUOROM) flowchart, utility and HRQOL information along with an extensive cost-effectiveness data and critical appraisal of all significant RCT & non-RCT evidence. HTA assessments are based on quality, current therapeutic standards and evidence-based medicine (EBM) guidance.

Results: Assessments vary considerably across technologies due to policy and decision-making criteria in varied political, economic and institutional context. It both represents and reflects approach and basic leadership in a specific geo-political scenario adopting methods and yields that fit the appropriate setting. The methodologies used to assess technologies, the austerity of the mechanisms, evidence analysis and consideration or weightage of other factors such as innovation, unmet needs and patient’s choice clearly set out the differences amongst different HTA bodies which advise the policy makers to implement a change in any healthcare provision.

Conclusions: Though there doesn’t exist a simple single way to satisfy the needs of all stakeholders a balanced moderation is advised, especially in decentralized healthcare systems which engage multiple decision makers seeking to optimize value-based services subject to regional constraints. There is a need of collaborative evaluation amongst all stakeholders, be it providers, developers, regulators, academia, payers or HTA organizations to offer newer technologies and effective therapies especially in areas of unmet needs with a balanced value perception to ensure introduction of worthwhile technologies and rejecting ineffective technologies at the onset.

Title: Knowledge and practices of colorectal cancer early detection examinations in Jordan: A cross sectional study

Authors: H Taha

Affiliations: College of Medicine-Population Medicine, Qatar University, Doha, Qatar

Background & Aims: Globally, colorectal cancer (CRC) is ranked the third most common cancer among men and the second in women. The American Cancer Society recommends that starting from age the 50 years, both men and women should have screening tests to find polyps and for early detection of CRC. In Jordan CRC is the number one cancer among males and the second most common cancer among females. This study aims to assess the knowledge and practices of CRC early detection tests and the barriers and motivators of screening in Jordan.

Materials & Methods: A semi-structured questionnaire and face-to-face interviews were conducted with 300 males and 300 females recruited using stratified clustered random sampling technique from four governorates in Jordan. The participants were aged 30 to 65 years without a previous history of CRC. Descriptive and multivariate analyses were used to assess knowledge and practices of CRC early detection tests.

Results: Over all there were Low knowledge and practices of CRC early detection tests. Better knowledge and practices were significantly associated ($P \leq 0.05$) with previously consulting a doctor because of symptoms and worries from CRC or having a doctor's recommendation to do CRC testing or having a higher knowledge about CRC signs and symptoms.

Conclusions: This study indicates that there is a need for creating awareness about CRC early detection tests in Jordan especially among those aged 50 years and above and those who have a family history of the diseases. Additionally, it is important to educate and encourage physicians to recommend CRC testing for patients that are at higher risk of the disease.

Title: Enhancing the diagnostic accuracy of non-ST segment elevation acute coronary syndrome in the emergency setting at the Cuban Hospital. An ongoing challenge.

Authors: G Fernandez, F Aguiar

Affiliations: Department of Cardiology, The Cuban Hospital, Dukhan, Qatar

Background & Aims: Background: During an acute coronary syndrome (ACS) Elevated white blood cells (WBC) play an important role in vascular injury, development of an atherosclerotic plaque, its rupture and thrombosis. Neutrophils are speculated to mediate plaque rupture and thrombosis by secreting proteolytic enzymes causing vascular damage, activation of coagulation pathways, micro vascular plugging and myocyte necrosis, mediated by secretion of pro-inflammatory cytokines. Objectives: To assess the relationship between neutrophil–lymphocytes ratio (N/L ratio) and non-ST segment elevation ACS (NSTACS) as well as its predictors upon admission in the emergency setting at the Cuban Hospital.

Materials & Methods: A randomized cross-sectional study was conducted on 71 hospitalized patients admitted over the last 24 months with the initial diagnosis of non-ST segment elevation ACS (NSTACS) at the Cuban Hospital upon admission. Two more groups were formed: one group formed by 59 individuals with cardiovascular risk factors without any acute coronary event (CRF group) and a control group integrated for 62 individuals younger than 45-year-old with no cardiovascular risk factors. The neutrophil / lymphocyte ratio (N/L ratio) was calculated using the absolute count method.

Results: The baseline characteristics of patients are shown in Table 1. Mean age and gender distribution were not different. It was noticeable the significant differences in percent of lymphocytes ($p<0.05$), WBC, ($p<0.05$), and neutrophil ($p<0.05$), between the groups. N/L ratio was highly different between all groups and between the NSTACS and CRF ($p<0.05$). It was found that HTN, percent of neutrophils, and N/L ratio were significant independent predictors of NSTACS ($p<0.05$).

Conclusions: The neutrophil / lymphocyte ratio was found to be remarkably elevated in patients with NSTACS and constituted an important predictor to be used in order to increase the diagnostic accuracy for NSTACS in the emergency setting.

Title: Effects of Age and Hemodialysis on Frailty Prevalence, Gait, and Balance in Diabetic Patients: A cross-sectional observational study

Authors: F Al-Ali*, B Najafi**, H Zou**, R Ibrahim**, T Talal*, A Hamad*

Affiliations: *Department of Nephrology, Hamad Medical Corporation, Doha, Qatar, ** Baylor College of Medicine, USA

Background & Aims: Motor skills deteriorates with aging. Some conditions may magnify this deterioration. This study examined whether diabetes and hemodialysis (HD) would negatively impact gait, balance, and physical frailty beyond aging.

Materials & Methods: Seventy-three elderly adults with diabetes (age=71.4±5.4 years, BMI=30.8±5.9, 49% were on HD) and seventy-eight mid-age adults with diabetes (age=56.7±5.7 years, BMI=31.1±7.2, 50% were on HD) were recruited. Gait and balance performances were objectively measured using validated wearable sensors at HD clinic. Frailty status was determined by Fried Frailty Criteria.

Results: Aging deteriorated motor-functions (gait and balance) in people with diabetes irrespective of dialysis (9%-46% deterioration, Cohen's defect size=0.22-0.42), with largest effect size observed for double support in gait performance (p=0.011). In addition, deteriorations in gait and balance caused by aging were more pronounced among diabetics with HD (19%-65% deterioration, d=0.41-0.75, p<0.05), when compared to diabetics without HD (1%-14% deterioration, d=0.01-0.20, p>0.05). The largest effect size for gait deterioration among diabetics with HD was observed in double support test (d=0.75, p = 0.002), and the largest effect size for balance deterioration was observed in ankle stability test (d=0.48, p = 0.042). Diabetics with HD, irrespective of age, had 3 times higher prevalence of frailty than diabetics without HD (42% vs. 14%, p=0.017).

Conclusions: Our study showed that HD deteriorates gait and balance and magnifies prevalence of frailty by factor of 3 beyond aging in people with diabetes. Immobility caused by prolonged HD (4-hour, 3 times per week) and post-dialysis exhaustion may contribute to poorer motor function in older diabetics leading to frailty. This study demonstrated practicality of wearable sensors to assess motor performance in dialysis clinics with opportunity to capture early deterioration.

Title: Utilizing Dialysis Clinical and Laboratory Markers to Identify Risk for Major Depression and Sleep Disorder in Dialysis Patients

Authors: T Fouda, A Hamad, A Kaddourah, M Elshirbeny, R Ibrahim, F Al-Ali

Affiliations: Department of Nephrology, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Patients on dialysis experience high rates of depression and sleep disorders. We aim to describe the epidemiology of these disorders in dialysis patients in Qatar and determine the clinical and laboratory biomarkers that can predict it.

Materials & Methods: We conducted a prospective cross-sectional study in dialysis in Qatar. Enrolled patients underwent sleep disorder screening using the Pittsburgh Sleep Quality Index (PSQI) with score >5 indicate poor sleep. We used CESD-R questionnaire with a score > 16 to diagnose depression. Logistic and regression models were employed to evaluate the association between poor sleep and depression and different commonly used clinical and laboratory markers.

Results: 253 dialysis patients (62% on hemodialysis and 38% on peritoneal dialysis) were enrolled. 84% of diabetics had PSQI ≥ 5 compared to 73% in non-diabetic ($P=0.03$). Using univariate linear regression model, PSQI scores correlated significantly with Hb1AC levels ($\beta_1= 0.9$, $P=0.006$) (even after adjusting for BMI ($\beta_1= 0.6$, $P=0.03$)). For every 0.9 unit increase in Hb1AC, the PSQI increases by 1. Utilizing a cut-off value of 5.1, the predictive diagnostic utility of Hb1AC was 80% for sensitivity and 89% specificity.

122 (48%) patients had depression disorder with CESD-R score ≥ 16 . Bivariate analysis showed that depressed patients have lower hemoglobin levels (mean log Hgb 2.4 (± 0.1) vs 2.3 (± 0.1), $P= 0.04$) and higher Hb1AC levels (mean log Hb1Ac 1.8 (± 0.2) vs. 1.7 (± 0.2), $P=0.04$) than non-depressed patients.

Univariate regression analysis of other clinical markers including hemoglobin level, anemia, PTH, KT/v, hypertension, and phosphorus revealed no statistical correlation with PSQI or CESD-R scores.

Conclusions: Our data shows high prevalence of sleep disorders and depression in ESRD population in Qatar. Utilizing Hb1AC in diabetics on dialysis can predict patients at increased risk of sleep disorder. Also, Hgb and HgA1C levels can predict dialysis patients at increased risk of depression.

Title: Role and cost effectiveness of serum Quantiferon in the diagnosis of tuberculous pleural effusion

Authors: M Waheed, S Ismail, R Malik, H Ateeq, I Kamal

Affiliations: Department of Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Pleural tuberculosis is an extra pulmonary manifestation of active TB. Typically, the pleural effusion is lymphocytic exudate, but the confirmation needs demonstration of Mycobacterium tuberculosis in pleural fluid or a pleural biopsy specimen. However, the yield of AFB from fluid is very low and pleural biopsy is invasive and not easily available at all centers. We investigated the role and cost effectiveness of Interferon releasing assay (IGRA, serum Quantiferon) in the diagnosis of tuberculosis pleural effusion. The cost of such one test is around \$107.

Materials & Methods: This was a retrospective study of 74 patients with suspected pleural tuberculosis with lymphocytic exudate effusion at medical unit of Hamad General Hospital.

Results: Total no of patients is 74. 85% are males and 15% are females. Median age of all the patients is 40 years. 21 % of the patients are Indian, 20 % Nepalese, 17 % Bangladeshi, 10 % Filipinos, 5 % Ethiopian and Pakistani, with only one from Qatar. The sputum for AFB was negative in all these patients.

Total no of patients with positive IGRA (serum Quantiferon) are 38 of which 86% are positive for tuberculosis and 14 % are Negative for tuberculosis. The total no of patients with negative IGRA (serum Quantiferon) are 36 of which 50% are positive for TB and 50% are negative. The patients with positive Quantiferon and negative TB were subsequently found to have eosinophilic effusion, empyema, and chronic granulomatous disease of unknown etiology, par pneumonic effusion and carcinoma of the lung.

Conclusions: The findings from this study suggests that quantiferon TB test should not be used routinely in a setting where there is readily availability of pleural biopsy facility as it has low sensitivity and high cost. These findings however need to be validated by larger studies.

Title: High incidence of Microbleeds on SWI brain MRI in the Qatar ICH population

Authors: M Ali, H Alhussein, N Akhtar, N Amir, Y Imam, D Deleu, A Own, A Shuaib, M Saqqur

Affiliations: Department of Neurology, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Cerebral microbleed (CMB) on brain MRI is seen in higher frequency in patients with hypertension and may increase risk of intracerebral hemorrhage (ICH). Our study's aim was to evaluate the incidence of CMB on brain MRI among ICH patients in Qatar.

Materials & Methods: Our stroke data base prospectively collects information on all suspected stroke in our hospital. Patients who suffered from ICH and underwent brain MRI were included in our study. The following MRI sequences were reviewed by 2 reviewers: SWI MRI, phase reversal MRI and T2 flair MRI of the brain. The location size and distribution of MB were defined in each case. Consensus was sought in all cases among the two reviewers.

Results: 584 patients were included in our analysis who suffered from ICH. Mean age is 52+/-12, Sex: M/F: 497/86 (85/15%), mean baseline NIHSS score is 12 +/-8, GCS:11+/-4, SBP 179 +/-35, DBP:102 +/-26. 218 patients underwent baseline SWI brain MRI as an investigation for their ICH. CMB were evident in 119/218 cases (55%), mean number of CMBs is 9+/-10, median 5 (IQ range:3-11). The distribution of CMBs was as follows: superficial (11/119,9%), deep (52/119, 44%) and diffuse (56/119,47%). Macrobleeds (size>1cm) were present in only 16/119 cases (13%). CMBs mainly seen in the presence of basal ganglia ICH (45/119,38%) followed by lobar ICH (41/119, 35%). CMBs were related to hypertension (76/119,64%) and possible hypertension-related (32/119, 27%). Cerebral amyloid angiopathy was suspected in only 6/119, 5% (P<0.001) of patients.

In the logistic regression analysis, the main risk factors that predict CMBs were the following: Hypertension (OR 2.11, CI95%:1.1-4, P=0.024). In addition, hypertension as an etiology of ICH remained the main predictor of CMBs (adjOR:3, CI 95%:1.3-7, P=0.013).

Conclusions: CMBs are very common on SWI brain MRI in ICH population. This may be explained by the high prevalence of hypertension in our population.

Title: Gastric Mucosa Associated Lymphoid Tissue (MALT)Lymphoma, Histopathological and immunohistochemical Comparative Study with Gastric Carcinoma and Helicobacter Pylori-Associated Gastritis in Endoscopic Biopsies.

Authors: T Mowafy*, A Ghanim**, A Elshafei**, A Alnemr**

Affiliations: *Rayhan Medical Complex, Qatar, **Tanta University, Egypt

Background & Aims: The histological criteria useful for the diagnosis of MALT lymphoma are well established. On the other hand, the histological changes of the gastric mucosa adjacent to MALT lymphoma have only been recently adequately described, in spite of the high frequency of intestinal metaplasia, atrophy and occasional dyspepsia.

Materials & Methods: This study was performed on 104 biopsies which included the endoscopic biopsies of 27 cases of MALT lymphoma, 27 cases of carcinoma and 54 cases of H pylori associated gastritis. Cellular lymphoid atypia, diffuse lymphoid growth pattern.

Results: Lymphoepithelial lesions and immunoreactivity of the diffuse lymphoid infiltrate with at least one of the B cell markers are important features for MALT lymphoma. The association of H pylori, lymphoepithelial lesions and the surface erosion was most likely seen in association of MALT lymphoma. The association of gastric dysplasia, gastric atrophy and intestinal metaplasia was most likely seen in gastric carcinoma while the association of lymphoid follicles, intestinal metaplasia and H pylori was most likely in association with non-neoplastic process but not exclusive. reactive germinal centers may be observed in H pylori associated gastritis, but they must not be exclusive for MALT lymphoma.

Conclusions: Identification of H pylori dose not be exclusive for concomitant MALT lymphoma. also diffuse lymphoid infiltrate that showed immunoreactivity of T and B markers is supportive of a reactive or an inflammatory process.

Title: Epidemiological and Clinical Features of Salmonella typhi Infection Among Adult Patients in Qatar: A Hospital-Based Study

Authors: H Ahmedullah*, F Khan*, M Maslamani*, H Al Soub*, K Chacko*, M Abu Khattab*, S Mahmoud*, F Howaidy*, M Thapur*, E Al Madhoun**, M Hamed***, S Doiphode****, A Al Khal*, A Deshmukh***

Affiliations: *Department of Medicine, Hamad General hospital (HGH), Doha, Qatar, **Department of Pharmacy, HGH, Qatar, ***Department of Microbiology, Al Wakrah Hospital, Doha, Qatar, ****Department of Microbiology, HGH, Qatar

Background & Aims: We sought to describe the epidemiological and clinical features of typhoid fever in Qatar.

Materials & Methods: We conducted a retrospective study of adult patients treated for typhoid fever at Hamad General Hospital and Alkhor Hospital between 2005 and 2012.

Results: Among the 354 patients enrolled in this study, 296 (83.6%) were males. They had a mean age of 28.4 ± 9.3 years. There were 42, 48, 39, 44, 46, 47, 52, and 36 cases in 2005, 2006, 2007, 2008, 2009, 2010, 2011, and 2012, respectively. Overall, 343 (96.9%) cases had history of travel to endemic areas. Among them, 93.0% acquired typhoid fever in the Indian subcontinent. Fever was observed in all cases and the other predominant symptoms were abdominal pain (38.1%), diarrhea (35.6%), and headache (33.1%). Salmonella typhi, showed high resistance to ciprofloxacin ($n = 163$; 46.0%), and low resistance to ceftriaxone ($n = 2$; 0.6%). Four patients developed intestinal perforation, which was surgically repaired in two of them. Two patients (0.6%) died.

Conclusions: Typhoid fever was frequent among immigrants to endemic area. Travelers returning from endemic areas with suspected typhoid fever should be treated empirically with third generation cephalosporin after obtaining appropriate cultures. Moreover, preventive measurements such as education on food and water hygiene and effective vaccination of travelers should be practiced widely among travelers to endemic areas to reduce morbidity and mortality.

Title: Risk Assessment and Travelers Characteristics: 6 Months Travel Clinic Experience from Qatar

Authors: M Abukhattab, M Almaslamani, A Al-khal

Affiliations: Department of Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: The number of international travelers is increasing worldwide currently there is no data about risk assessment and travelers characteristics from Qatar. To identify risks and facilitate risk reduction strategies, detailed knowledge of travelers' characteristics is needed.

Materials & Methods: This is a Retrospective descriptive study from February 2017 to August 2017 done in Communicable Disease Center, Qatar.

Results: 279 travelers were included. The top 2 visited countries Tanzania, Kenya.

Purpose of travel was for tourism 57.3 %, while VFRs were 10.7 %.

21 % of the population had pre-existing medical conditions Hypertension, Diabetes; were the most common comorbidities. The mean travel duration was 46.5 days (range from 3 to 90 days).

97 % of the population required vaccinations the most common prescribed vaccines are Typhoid vaccine 69 %, Tdap 62 %, Hepatitis A vaccine 55 %, Flu vaccine 49.3 % and Yellow fever vaccine 39%.

Conclusions: Travelers from Qatar tend to visit high-risk Itineraries; lack of proper travel medicine services and Awareness among travelers may increase the risk to our travelers especially in our setting where there is huge number of expatriates in Qatar whom are frequently traveling back to their home countries (VFRs).

Title: Impact of Helicobacter pylori eradication on symptomatic improvement in patients with long standing GERD

Authors: W Hassanen, O Ibrahim, R Alanwar, F Acgaoili

Affiliations: Qatargas Operating Company limited, Doha, Qatar

Background & Aims: Helicobacter pylori infection represents one of the most common infections worldwide. The link between Helicobacter pylori infection and GERD is still controversial. This study is designed to find the impact of HP eradication on symptomatic improvement of patients with resistant long-standing GERD.

Materials & Methods: The study was conducted retrospectively at Qatargas medical department clinics between January 2010 and January 2018. Data were collected on patient's age, sex, weight, duration and severity of GERD symptoms, history of GERD treatment and HP status. A retrospective analysis was performed of 683 patients who suffers from recurrent GERD symptoms for more than 1-year duration despite treatment and had underwent upper gastrointestinal endoscopy. The relationship between GERD symptoms and HP status was analyzed. The role of upper GI endoscopy in this study was only to exclude cases with gastric or duodenal ulcers. Patients with Barrette's esophagus were also excluded from this study.

Results: There were 280 women and 483 men in this review with an average age of 41years (range, 26 to 56) years. Helicobacter pylori positive status was seen in 280 patients with long GERD symptoms lasting for more than 6 months despite medical treatment. A statistically significant relationship was found between HP eradication in these patients and symptomatic improvement of GERD.

Conclusions: Based on our findings, significant evidence suggests the potential role of HP eradication in symptomatic improvement of patients with long standing GERD.

Title: Pre-Hospital Emergency Management of Heat Related Illnesses in Field Workers.

Authors: W Hassanen, O Ibrahim, S Zaffar, A Khan

Affiliations: Medical Department, Qatargas Operating Company limited, Doha, Qatar

Background & Aims: Background: Heat stress is major concern with work related illness during the summer season.

Aim: To set quality standards of Qatargas Medical Department in mitigating heat stress related illness and to evaluate its efficacy by measuring heat related morbidity, mortality and financial impact to the company.

Materials & Methods: Intervention and Improvement Plan:

1. Pre-employment medical examination data to measure the prevalence of pre-existing medical conditions that may increase the risk or likelihood of heat related illnesses in field employees.
2. Annual Periodic Medicals including Pre-employment Assessments of all employees and Contractors to screen underlying diseases and risk factors for Heat related illness.
3. Implementing measures during the Heat stress period:
 - a) Engineering Controls- A/C shades and temporary resting shelters
 - b) Administration Controls- Strict adherence of Work-Rest Cycles based on the Heat Index. No Water No Work Policy.
4. Setting evidence-based protocol for pre-hospital emergency management of heat related illnesses.
5. Ensure staff mastering of clinical roles in the scene through classroom and live scenarios education (acclimatization, urine color in dehydration).
6. Setting an internal clinical audit program to ensure compliance and sort out gaps in performance.
7. Sharing the lessons learned from clinical perspective.

Results: Measurable Outcomes:

- Evaluation of preventative measures through measuring incidence of work-related illnesses. Recording of Heat Related Illness through e-Safety Portal and Qatargas Medical Records.
- Outcome of pre-hospital management of heat related illnesses in terms of hospital admission course and duration, leave of absence, in addition to mortality if any.
- Productivity and performance of employees of field workers after full recovery following emergency pre-hospital management

Conclusions: Adequate and tightly structured mitigation program for heat related illnesses can decrease hospital referrals, admissions, improve the prognosis and maintain the safety and productivity of field employees exposed to harsh summer season in Qatar.

Title: The pharmacists' input on the screening, management and prevention of metabolic syndrome

Authors: R Al Dawi*, A Tonna**, D Stewart**, C Rayan***

Affiliations: *Clinical Pharmacy Department, Hamad General Hospital, Doha, Qatar, **Robert Gordon University, Scotland, ***Trinity College Dublin, Ireland

Background & Aims: Metabolic Syndrome (MetS) is a cluster of factors that increase the risk of cardiovascular disease and include: diabetes and prediabetes, abdominal obesity, elevated triglycerides, low high-density lipoprotein cholesterol and high blood-pressure. However, the role of the pharmacist in the MetS has not yet been fully explored.

Purpose:

The aim of this systematic review is to critically appraise, synthesize, and present the available evidence on the pharmacists' input in the screening, prevention and management of MetS.

Specific objectives:

- 1- Determine the types of pharmacist activities
- 2- Characterize the populations who could benefit the most.

Materials & Methods: The MEDLINE, IPA, CINAHL and the Cochrane underwent a thorough search of all published English article from 2008 and onward. There was no restriction on the study types nor the population groups studied. The quality of the eligible studies was critically appraised using standardized quality assessment tool.

Results: The initial search yielded 21330 studies from the included databases, of which 8 studies met the inclusion criteria. More than half of the studies conducted in the USA (n=5), two in Europe and one in the Middle-East. Majority of the studies assessed the pharmacist input in MetS screening (n=5), two evaluated the management, and one described the pharmacist role in implementation of MetS screening program as an initiative to prevent the MetS. The ambulatory outpatients was the most studied setting (n=5), followed by the community pharmacies (n=3), in addition to one study in the inpatient psychiatric ward. The quality of the included studies ranged from good quality (n=3), to fair (n=4) and only one poor study.

Conclusions: The pharmacist activities in the screening, prevention and management of MetS in adult and pediatric, outpatients, inpatients and community pharmacies have been associated with short-term and long-term improvement in the patient outcomes.

Title: Impact of bariatric surgery on overall health of target group employees of a global energy operator

Authors: N Pillai, R Costan

Affiliations: Plant & Offshore medical Services, Qatargas medical services

Background & Aims: Bariatric surgery, in obesity treatment is known to accomplish sustained weight loss, reduction of obesity-related comorbidities and mortality, and improvement of quality of life. The aim was to look at the overall improvement in health and to detect nutritional abnormalities, if any, which can occur in bariatric surgery patients potentially forestalling the clinical benefits of this therapeutic option.

Materials & Methods: 39 employees who underwent Bariatric Surgery were identified and invited to attend the post-surgery health assessment. The process involved filling up the quality of life questionnaire, medical history, body stat analysis, and laboratory tests to assess for any biochemical abnormality or deficiencies. Quality of life questionnaire was adapted from Moorehead-Ardelt questionnaire, originally developed as a disease specific instrument to measure postoperative outcomes of self-perceived quality of life in obese patients. The routine blood biochemistry including LFT, FBS, HbA1C, KFT, Lipids, electrolytes along with vitamin D, B12, Iron/ferritin/TIBC, Folic acid, PTH, Calcium etc estimated.

Results:

- There was significant improvement in the BMI range before and after the surgery - The mean BMI changed from 38.15 before surgery to 29.05 in about 12-14 months after bariatric surgery.
- Quality of Life showed big positive change in all 6 areas assessed - 122% improvement.
- Most of the medical conditions (HT/DM/Dyslipidemia) got resolved (57%) or could be controlled effectively (35%) post bariatric surgery. Musculoskeletal conditions showed the biggest improvement (87.5%).
- Nutritional & metabolic issues noted were – Vit-D, B12, Iron deficiencies & raised PTH.

Conclusions: It is clear that bariatric surgery has made big upswings in the quality of life, significant betterment of BMI and enormous improvement in chronic disease control. Important follow up research questions will be to look at the sustainability of the positive effects and the cost effectiveness of bariatric surgery in managing/preventing obesity related chronic diseases.

Title: An investigation into inpatient utility of Proton Pump Inhibitors: a retrospective analysis of Hamad General Hospital inpatient episodes

Authors: G Karuppasamy, J Parambil, S Ismail, Y Yahia, S Alam, M Danjuma

Affiliations: Division of Internal Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Proton pump inhibitors (PPIs) are prescribed widely in hospitalised patients, often not conforming to guideline or evidence-based indications, with risk of various adverse effects. We aimed to evaluate the prevalence, indications, and appropriateness of PPI use among patients admitted to general internal medicine service.

Materials & Methods: We performed an observational cross-sectional study. Electronic medical records of patients admitted to internal medicine service over one month were reviewed. Relevant documentation, inpatient and outpatient medication prescriptions were analysed for PPI use. Appropriateness of PPI use was determined based upon the FDA approved list of accepted indications.

Results: 533 patients were reviewed and 201 were being treated with PPIs (37.7%). A significant number of patients were over the age of 50 years (57%). 50% of patients were on aspirin, 10% on NSAIDs and 20% were on steroid treatment.

Use of PPI was considered inappropriate in 63.7% of these patients, the most common reason being ulcer prophylaxis for those on corticosteroids, antiplatelets or anticoagulants (53%). The indication in 16.4% of patients was for low-risk stress ulcer prophylaxis. Among those who had an appropriate indication for PPI use, 32.8% was for prophylaxis of NSAID associated gastropathies and 20.5% for symptomatic GERD. Treatment was initiated during admission for 70 patients (35%). Of the 80% of patients who were discharged on PPI, 76% of them were prescribed PPI for more than 3 months.

Conclusions: Our study showed a trend of inappropriate PPI prescription in non-critically ill hospitalized patients. PPI's should be commenced only when clinically indicated to prevent potentially deleterious effects of non-useful long-term treatment on them. There is compelling need to strengthen hospital guidelines; key therapeutic themes warranting particular attention include: assessment of continued need for PPI's at discharge, duration of PPI treatment and need for outpatient review.

Title: Leishmaniasis infection in Tuberculosis patients from Kala-azar endemic areas

Authors: M F Rahman*, S Banu**, M J Alam**, M J Uddin**, M A S Sarkar**, A Bashar**, P C Nath**, C Sanjoba**, M A Alim**, Y Matsumot**, M Uddin***, M B Rahman**

Affiliations: *Armed Forces Medical College Hospital Dhaka Bangladesh, **SK Hospital Mymensingh, Bangladesh, ***Division of Internal Medicine, Hamad Medical Corporation.

Background & Aims: Co-infection of parasitic disease and pulmonary tuberculosis are increasing public health problem especially in developing countries like Bangladesh. More than 81% of cases and deaths from TB are in developing countries and is aggravated by concurrency with parasitic diseases.

Materials & Methods: This descriptive cross-sectional study was conducted at SK Hospital, a part of Mymensingh Medical College Hospital from Jan 2014 to Dec 2016. A total of 176 Tuberculosis patients reported from Kala-azar endemic areas were included. All the TB cases were investigated for Kala-azar. Buffy coat was taken from Venous blood and serum for ELISA. All patients' blood was tested with ICT(rK39) for Visceral Leishmaniasis. ICT positive patient's splenic aspiration was examined under a microscope with 10x 100 magnification. After that, all these cases were tested by ELISA.

Results: 120(68. %) were male, mean age 43 years and 87.49% of patients were within 16 to 60 years of age group infected with Tuberculosis. The blood sample of 176 patients was tested with ICT rK39 and 12(7%) patients were found positive for leishmaniasis who suffered from Tuberculosis. These 12(7%) patient's splenic smear were examined of which 11(92%) of them were found positive. But using ELISA all 12(100%) patient smears were found positive.

Conclusions: Visceral leishmaniasis and tuberculosis co-infection have drawn attention clinically. In both diseases, the infection may remain dormant asymptomatic which may be related to immune suppression and lead to active disease. This study has been able to find out leishmaniasis amongst tuberculosis patients from kala-azar endemic areas, giving the message to both clinicians and researchers for its management.

Title: Clinical utility of ANA-ELIA vs ANA-Immunofluorescence in connective tissue diseases

Authors: O Alsaed, A Al-allaf, L Alamilah

Affiliations: Department of Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Background: Antinuclear antibody (ANA) detection by indirect immunofluorescence technique (ANA-IIF) is the standard test for connective tissue disease (CTD) screening for last 5 decades, which has low specificity and it is labor intensive. ANA detection by fluoroenzyme immunoassay (ANA-Elia) has been developed recently as an alternative method to include 17 ANA-targeted recombinant antigens.

Objectives: Compare the sensitivity and specificity of the new ANA-Elia with conventional ANA-IIF.

Materials & Methods: Randomly selected 1458 patient's sera from primary and secondary health care were tested for both the standard ANA-IIF (Diasorin S.P.A, saluggia, Italy) and the new ANA-Elia (Phadia GmbH, Ferieiburg, Germany). ANA-Elia is fluoroenzyme immunoassay performed on the Phadia-250 automated platform. It contains 17 ANA-targeted recombinant antigens; dsDNA, Sm-D, Rib-P, PCNA, U1-RNP (70, A, C), SS-A/Ro (52 and 60), SS-B/La, Centromere B, Scl-70, Fibrillarin, RNA Polymerase III, Jo-1, Mi-2, and PMscl. Result with ratio > 1.0 considered positive for ANA-Elia. For ANA-IIF our lab cut off for positive test is $\geq 1:80$. Patients were evaluated in rheumatology clinics for fulfilling the correspondent international clinical criteria for various connective tissue diseases.

Results: A total of 1458 sera, (75.7%) were females with mean age of 43 ± 13 years. 201 (11.5%) patients confirmed to have clinical CTD as follow: 142 SLE, 24 Sjogren's syndrome, 15 scleroderma, 7 MCT, 10 Myositis and 10 undifferentiated CTD. The specificity of ANA-Elia at cut off ratio of >1 and ANA-IIF at titer of $\geq 1:80$ was almost equal, 88.5% and 87.6% respectively. However, the new test ANA-Elia has higher sensitivity (74.5%) as compared to ANA-IIF (61.6%). At a higher cut off ratio of >2 & titer of $\geq 1:160$, the specificity improved to 93.6% & 92.6% respectively.

Conclusions: ANA testing with the newly developed, use friendly, fully automated and less labor intense method of ANA-Elia can replace the standard conventional ANA-IIF with better specificity.

Title: Epidemiology of musculoskeletal complaints and diseases in Qatar

Authors: O Alsaed, H Sarakbi, S Alemadi, M Hammoudeh

Affiliations: Department of Rheumatology/Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Estimate the prevalence of musculoskeletal disorders in Qatari population above age 15 by using Community Oriented Program for the Control of Rheumatic Disease survey (COPCORD).

Materials & Methods: It is a cross sectional study with a target of 1000 subjects, 500 males and 500 females. We conducted door to door survey using COPCORD Questionnaire (Arabic version) done by research assistants. The subjects with positive surveys were called to Hamad General Hospital Rheumatology outpatient clinics for further interview and examination by a rheumatologist to confirm the diagnosis.

Results: Randomly selected 1239 (50.8% male) Qatari participants from different Qatar municipalities completed COPCORD survey. 563 (45.4%) screened positive for musculoskeletal (MSK) complaints. 237 MSK disorders have been diagnosed in 196 (15.8) participants; 181 degenerative joint disease, 52 soft tissue rheumatism, 2 rheumatoid arthritis, 1 connective tissue disease, 1 inflammatory bowel disease associated arthritis.

Conclusions: Prevalence rate of rheumatic disease in Qatar is comparable to the regional and international figures.

Title: AIDS-defining opportunistic illnesses in Qatar, 2000-2016: a cohort study

Authors: M Ali, N Elmaki, W Goravey, M Mohamed, A Al-Khal, M Al-Maslamani, H Alsoub

Affiliations: Department of Infectious diseases, Department of Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: To assess the incidence and spectrum of AIDS-defining opportunistic illness in Qatar.

Materials & Methods: Retrospective cohort study for all HIV infected patients registered in Qatar from 2000-2016. Incidence of HIV infection and related opportunistic illness was calculated per 100,000 person-years. Demographic and Clinical characteristic were compared between two groups of patients with and without opportunistic illness.

Results: Of 167 cases with HIV infection, 54 (32.3%) of them had opportunistic illness. The average incidence rate of HIV infection over 16 years is 0.69 per 100000 population, and the incidence rate for opportunistic illness is 0.27 per 100000 population. The most common opportunistic illness is Pneumocystis Jirovecii pneumonia (PCP) 25% of cases while KS represent 1.9% of the cases. Most of our patients in both groups were young age, majority males, and almost half of them were Qatari. The CD4 count, CD4%, CD4/CD8 ratio and viral load were statistically significant risk factors in cases with opportunistic illness p value <0.05, however presence of comorbidities was lower in patients with opportunistic illness P value 0.032.

Conclusions: Qatar has a low prevalence rate for HIV infection and related opportunistic illness. Early diagnosis and use of antiretroviral therapy are important measures to decrease the rate of opportunistic illness

Title: Nutritional status and macronutrients adequacy of traumatic brain injury patients in Qatar

Authors: G Daradkeh*, A Al-Muhanadi*, R Al-Saadi**, W Yazidi***, N Al-Dahneem***, L Lugan***, M Hammami***, E Abu-Hassan***

Affiliations: Department of Nutrition & Dietetics, Hamad Medical Corporation, Doha, Qatar: *Al Khor Hospital, **Hamad General Hospital, ***Rumailah Hospital

Background & Aims: Traumatic brain injury (TBI) is the leading cause of deaths and disability, In USA, 5.3 million individuals are suffering from TBI – related problem and similar high rate has been noted to occur in other developed countries. In emerging economies such as those countries in the Arabian Gulf, TBI is common due to high number of road traffic accident. Therefore, in the region, there are urgent needs to quantify the sequel as well to contemplate remedial intervention among the victim of TBI. This study aimed to assess the nutritional status and macronutrients adequacy of traumatic brain injury patients.

Materials & Methods: This study was conducted among TBI patients in Rumailah hospital, Hamad Medical Corporation – Doha, Qatar. Demographic data were solicited via medical records or directly from patient or his relatives. Anthropometric measurements and dietary intake were collected to assess the nutritional status and adequacy level.

Results: Half of TBI patients (52.4%) were young, approximately 23.8% of cases were classified as having 'mild TBI' while 28.6% and 47.6% were classified as moderate and severe TBI respectively. In terms of nutritional parameters, three fourth (76.2%) of the cases were at high or moderate risk of malnutrition, 23.8% of cases were underweight, and 9.5% were overweight. TBI patients were noted to have deficiency in energy (30.2%), carbohydrate (43.0%), protein (24.8%), and fiber (54.1%) intakes.

Conclusions: Despite the high prevalence of TBI in emerging economies such as Qatar, to our knowledge, there is dearth of studies examining the nutritional status of TBI patients. This study indicates that TBI patients in Qatar are at a high risk of developing malnutrition, and macronutrients deficiency. Therefore, nutritional assessment, intervention and support are essential to improve TBI patient's health status beyond the brain injury.

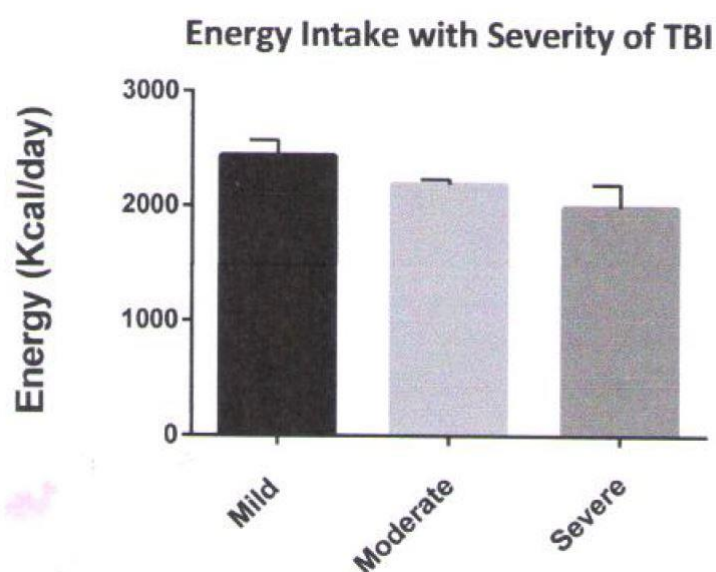


Figure 4. Energy intakes with TBI severity

Title: The impact of fruit and vegetable based diet on renal biomarkers in type 2 Diabetes patients - a Systemic Review and Meta-analysis

Authors: J Talukder*, E Miller**, M Khalid*

Affiliations: *Adult Emergency Medicine, Al Wakra Hospital, Hamad Medical Corporation, ** Johns Hopkins School of Medicine, Baltimore, USA

Background & Aims: Diabetic kidney Disease (DKD) develops in more than 40% diabetes patients and associated with greater cardiovascular mortality. Despite all available medical therapy there is progressive decline of renal functions in diabetic patients. In recent times medical nutrition therapy like vegetable based diet has emerged as an effective intervention in DKD.

Materials & Methods: A systemic review of literature is done using Medline search, Cochrane data base to see the effect of fruit and vegetable diet on renal biomarkers. The inclusion criteria are Type 2 Diabetes, randomized control trials, fruit and vegetable diet, renal biomarkers like glomerular filtration rate (GFR), albumin creatinine ratio (ACR). After reviewing 618 records only 12 randomized trials are included in our meta-analysis. We summarized all result as standardized mean difference (SMD) of continuous variables and combined all data by means of random effect model.

Results: A total 3228 diabetic patients with a mean age 55 years, BMI 31, micro to macro albuminuria, GFR = 65 ml/min/1.73m² are reviewed. The dietary intervention period was 12 weeks to 11 years. The primary outcomes of analysis are GFR, serum creatinine, ACR and urinary albumin excretion rate (UAER). We found that GFR has increased significantly by 6.12 ml/m/1.73m² with SMD= 0.132 (95% CI 0.061 to 0.202), $p < 0.000$. A significant heterogeneity is seen across the studies ($I^2 = 90.07\%$, $p < 0.000$) for GFR. UAER declined significantly, SMD is -0.474 (95% CI -0.688 to 0.260). The change in ACR (SMD -0.539, $P < 0.000$) and serum creatinine, SMD -0.118 (95% CI -0.191, -0.046), p value < 0.001 , also favored intervention.

Conclusions: This study concluded that fruit and vegetable diet has a protective and beneficial effect in DKD. Study protocol, assessment method, sensitivity of biomarkers are important cofounders which could be resolved with more specific intervention in large randomized control studies in future.

Title: Anaemia Management in Peritoneal Dialysis: A Successful Nurses Leadership Model

Authors: A Hamad, M Futotana, F Ahmed, J Ira, A Elsayed, S Ali, V Lonappan, H Hamdi, M Elesnawi, H Ezzat, F Al-Ali

Affiliations: Department of Nephrology, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Anemia management is recognized as an important factor in improving outcomes of dialysis patients. Our anemia nurse manager program in hemodialysis improved our outcomes. Our peritoneal dialysis (PD) was lagging behind

Aim: We implemented a PD anemia nurse manager (PDANM) model in PD to achieve better hemoglobin (Hg) targets (>70% in target range (10-12g/dL) per KDOQI/KDIGO guidelines) and avoid extreme Hg levels (<9 g/dl or > 13 g/dl to avoid complications).

Materials & Methods: Our PDANM is a PD nurse who was trained for 4 months by our lead anemia manager and nephrologist. Our PDANM role includes lab review, medications adjustments, patients' education and act as a focal point between patients and their families and staff and physicians. She also reviewed results and prescriptions for erythropoietin stimulating agents (ESA) were written per unit protocol simultaneously with physician (physician prescription is mandatory per health authority in Qatar). We formed a multidisciplinary team (nephrologist, nurses, educators, social workers and quality reviewers) to perform root cause analysis (RCA) monthly to address achieved goals and challenges.

Results: PD census mean was 185 from 8/2017-7/2018. PDANM achieved a statistically significant improvement in PD patients with Hg within target (52% in 8/2017 versus 68% in 7/2018) p value of 0.009). Similarly, comparing period (June-August 2017) before we start to the 3 months final period of the program (May-July 2018)) (56% versus 67% (p Value 0.0016). Extreme Hg has improved down from 13% in 7/2017 to 8% 7/2018 (p Value >0.05 NS). Root cause analysis (RCA) showed poor compliance with visits and ESA shots were the main causes of failure.

Conclusions: Anemia management in PD was shifted mainly to the anemia nurse manager which improved anemia outcomes. Multidisciplinary approach and performing RCA were very helpful to achieve our goals. The model was cost effective despite shifting to long acting ESA.

Title: Simulated hospital rounds for history-taking and problem-solving

Authors: A Al-Moslih*, S Suliman**, A Carr*

Affiliations: *College of Medicine, Qatar University, Doha, Qatar, **Department of Internal Medicine, Hamad General Hospital, Doha, Qatar

Background & Aims: History-taking and problem-solving are crucial for making diagnoses. Gathering, organizing, and interpreting information, followed by decision-making are functions of problem-solving. These can be affected by factors like time-constrain and unfamiliarity of context. Creating an authentic context to allow practice on such skills for medical students is a challenge. We aimed to evaluate how medical students value the experience from different perspectives such as teaching method, content, length, activities involved, ability to engage, and clarity of the delivered messages.

Materials & Methods: Simulated rounds targeted junior medical students in their pre-clerkship phase of the program. Each round constituted of teams of 4 to 5 students, who stopped for 20 minutes by each simulated patient. It included mixed-reality encounter where students watched a 90-seconds 360o video with a Virtual-Reality goggle then met the patients' father, two beds had simulated patients, and a fourth was a video-based scenario. Students perception was sought by an e-survey and 10 student-led simultaneous focused groups.

Results: 31 of 118 students (26.27%) responded to the e-survey and 48 of 118 attended ten student-led focus groups. 90.3% rated this method of training as good or excellent, and 9.7% as fair. 100% found the experience to be engaging at variable levels. Students received instant feedback from SPs and clinical tutors on their clinical reasoning, communication, empathy, and team-work.

Conclusions: Simulated rounds are liked very much by the students. Having students commit to specific objectives or questions to address after each patient encounter can keep them focused. Timed patient encounters seem to add an element of stress and have a value in creating an authentic context. Simulated hospital rounds can be a golden opportunity if planned well. Ensure that students receive feedback instantly. Train and allow simulated patients to provide feedback especially on aspects like communication & empathy.

Title: Phenotypic characteristics and diagnostic outcomes of patients presenting with and without seizure-related Neuro-cysticercosis: A retrospective analyses of Qatar Tertiary Hospital episodes (2015-2018)

Authors: S Al-Shokri, H Chaudhary, I Abubeker, M Danjuma, A-Naser Elzouki

Affiliations: Department of Internal Medicine, Hamad General Hospital, Doha, Qatar

Background & Aims: Accidental ingestion of *Taenia Solium* eggs could lead to acquisition of cysticerci and its migration to central nervous system causing Neurocysticercosis (NCC). Although rare worldwide, NCC is common in the tropics and sub-tropics especially resource poor settings. The recent demographic change in the state of Qatar has seen a rise in clinically adjudicated cases of NCC. In this report, we have carried out a cross sectional analyses of current NCC presentation with the view to ascertain any changing phenotypic trends, as well patient outcomes over a defined observation period.

Materials & Methods: We retrospectively analysed electronic records of consecutive adult patients presenting to the acute admissions unit of Hamad General Hospital from January 2015 to May2018. A prior application for access to these records was submitted and approved by medical ethics.

Results: Of the total number of records reviewed, 26 cases satisfied criteria for NCC as per Del Bruto criteria. The mean age at presentation was 31 years (SD ± 9.74) with an entirely male non-Qatari population. Older patients were more likely to have seizures than their younger gender matched cohorts (CI 1.18-18.8; $p=0.019$). There were a higher proportion of patients presenting with seizures 66% ($n=20$), with a preponderance of generalised tonic clonic seizures 73.6% ($n = 14$). Phenytoin was the most common anticonvulsant prescribed (54%). The presence of cerebral calcification on MRI imaging was significantly associated with risk of seizures (CI 0.034, 0.9; $P = 0.036$) by bivariate analysis, with a trend towards increased risk of seizures with advancing age (OR 0.12, $P = 0.06$).

Conclusions: Seizures in its various phenotypic manifestations continue to define the most common mode of presentation of NCC in our population in Qatar. Despite recent change in the demographic population, colleagues should always consider NCC in the initial differential diagnoses of patients presenting with seizures from NCC endemic areas.

Title: Clinical Outcomes of Kidney Transplant Recipients Living in Qatar

Authors: M Alkadi, E Abuhelaiqa, J Mahmoud, M Jarman, O Fituri, H Al-Malki

Affiliations: Department of Nephrology, Alwakra Hospital, Hamad Medical Corporation, Qatar.

Background & Aims: Kidney transplantation is the preferred treatment for patients with ESRD. The first kidney transplant in Qatar took place in 1986 and since then many patients have been transplanted either locally or abroad. The aims of this study were to identify the causes of kidney graft failure and determine the 1,5,10-year patient and kidney graft survival rates in our transplant population.

Materials & Methods: This was a retrospective cohort study. We included all adult patients who were transplanted between 2005-2015 in Qatar or abroad and started following up at our transplant clinics within 3 months post kidney transplantation. Patient and kidney graft survival rates were determined using K-M curves.

Results: By December 31st, 2015, 457 patients were transplanted and followed at our center. Most patients were transplanted from living donors (89%, n=408). 218 patients (48%) were Qataris and 325 patients (71%) were males. 21% of patients (n=98) were able to get transplanted before starting on dialysis.

The median follow-up in our study was 80.9 (IQR: 49-117.5) months. 39 out of 457 patients (8.5%) had their graft failed and required initiation of dialysis or retransplantation, while 17 patients (3.7%) died with a functioning graft. Most grafts failed due to a medical or surgical cause such as infection, sepsis, heart disease or renal thrombosis (38%, n=9). Glomerular diseases such as diabetic nephropathy, IgA nephropathy and transplant glomerulopathy led to graft failure in 23% of cases (n=9). Acute rejection was the cause of graft failure in only 5% of cases (n=2).

Our 1, 5 and 10-year patient survival rates were 98.9, 97.6 and 90.3%, respectively. Also, the 1,5 and 10-year death-censored graft survival rates were 98.4, 95.9 and 86.5%, respectively.

Conclusions: Patient and kidney graft survival rates of our kidney transplant population were excellent. Acute rejection was rarely the cause of graft failure.

Title: A survey on the utility, training, competence and Interest in Thoracic Ultrasound Amongst Physicians at Hamad General Hospital.

Authors: K Syed, M Hameed, S George, M Thomas

Affiliations: Department of Pulmonology, Hamad General Hospital, Doha, Qatar

Background & Aims: Bedside thoracic ultrasound complements clinical examination in patients with thoracic diseases. It improves diagnostic accuracy at the bedside and empowers the physician to perform guided interventional procedures. This survey was done to evaluate the level of exposure, understanding and interest in thoracic ultrasound training among physicians at Hamad General Hospital.

Materials & Methods: All internal medicine physicians at Hamad Medical Corporation were invited to complete an online Likert scale survey in May 2018.

Results: The survey was completed by 60 physicians with a response rate of 32%. Residents (PGY2, 3, 4) were the major contributors 42 (70 %) followed by consultants 14 (23%). Nearly half 29 (48%) of the physicians had undergone some form of training in thoracic ultrasound but only 18 (62%) of these physicians had attended a practical course with demonstrations. Two thirds of all physicians 40(66.7%) regularly use thoracic ultrasound in their clinical work, but only a quarter felt fully competent to do so. The top three conditions where ultrasound of the chest was most helpful were felt to be pleural effusions 59 (98%), thoracentesis 56 (95%) and diagnosis of pneumothorax 35(58%). All physicians were interested in undergoing formal education and training in bedside thoracic ultrasound, and nearly two thirds 39 (64%) were willing to devote up to 3hours per week to achieve and maintain their competency in thoracic ultrasound. More than half of the physicians would prefer smaller portable machines.

Conclusions: Physicians regard bedside thoracic ultrasound as a very useful tool for diagnostic and safe pleural interventions in their clinical practice. This survey emphasizes the need for a formal structured thoracic ultrasound course to improve the practice and competency of physicians working at Hamad General Hospital.

Title: Re-attendance of geriatric patients at emergency department, Hamad General Hospital, Doha, Qatar from March to September 2018

Authors: A Musallam*, S Belgacem*, Y Meheisn**, A Abbas*, S Osman*, A Abdalla*

Affiliations: *Geriatrics & long-term care department, Rumailah Hospital, HMC, Doha, Qatar, **Home Health Care, Qatar

Background & Aims: Older people are admitted to hospital more frequently, have longer length of stay and occupy more bed days in acute hospitals compared to other patient groups. There is a demanding need to change how we care for older people with urgent care needs, to improve quality, outcomes and efficiency.

In Qatar, older persons (age 65+), represents 6 % of population; this figure expected to grow to 14% by 2030. It consumes on highest part of provincial health care spending.

The Geriatric consultation team has been working in HGH ED since August 2017 in collaboration with Home Health Care Service & the emergency department team in which our aim to provide the patient and the family members with the highest level of support & comprehensive care.

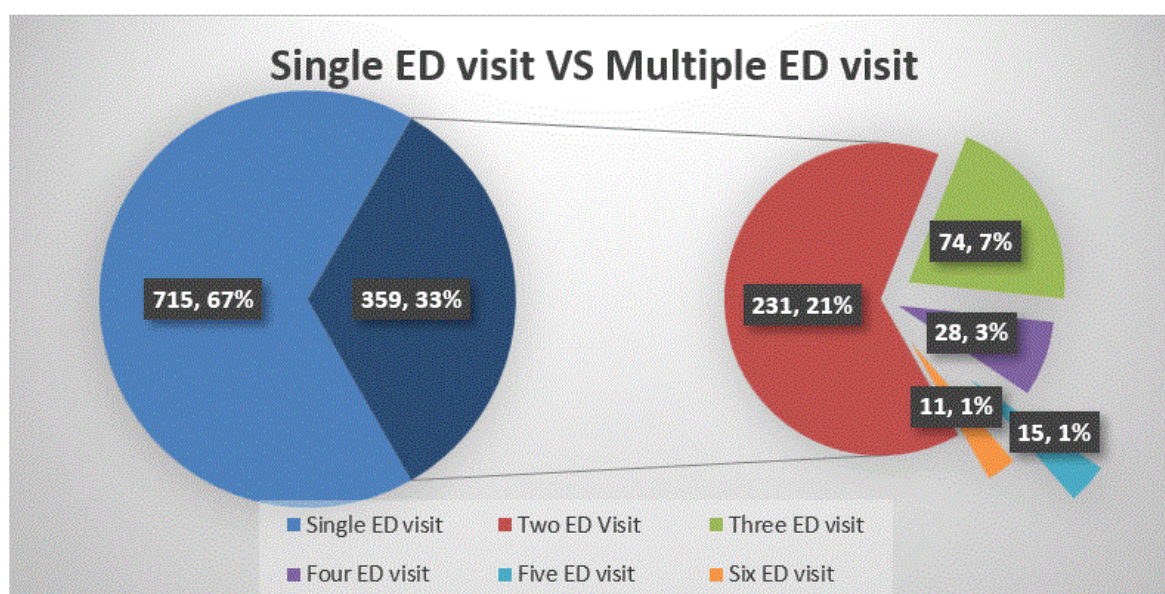
Materials & Methods: Our team has screened all patients present in ED on every working weekday morning with the aim of identifying all patients 65 years and above. By visiting ED as well as reviewing data on Cerner in addition to on call system. The most vulnerable group identified is the ones who has not got clear disposition and those were physically reviewed by our team.

Results: Total number of patients screened 1074. Female constituted 49% of the patients. (image for details)

Conclusions:

There is significant number of older patients who attended ED. a high re-attendance rate to ED has been observed. The Geriatric consultation team in ED works towards reducing this by providing rapid access to geriatric clinics and referral to Home health care services in addition to other appropriate community services.

Percentage of patients who attended ED more than once



Title: Distribution of geriatric syndromes among a 100 older patients reviewed by the geriatric consultation team in Hamad general hospital emergency department in Doha, Qatar

Authors: A Abbas*, S Belgacem*, Y Mehaisin**, A Musallam, S Osman, A Abdalla

Affiliations: *Geriatrics & long-term care department, Rumailah Hospital, HMC, Doha, Qatar, **Home Health Care, Qatar

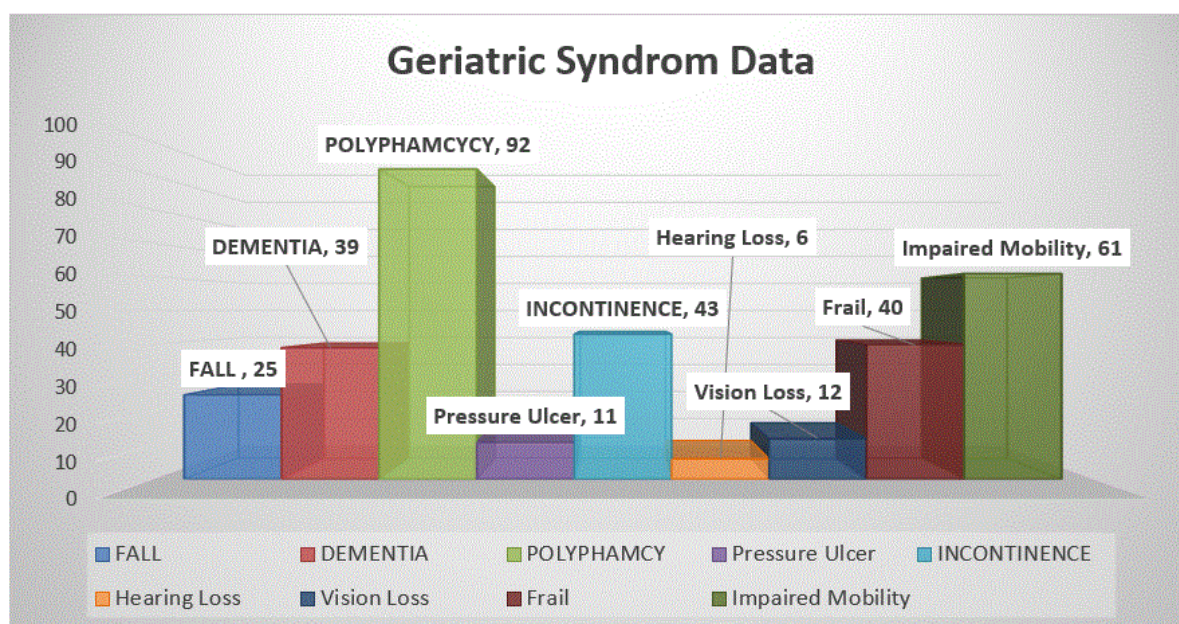
Background & Aims: Older people are admitted to hospital more frequently, have longer length of stay and occupy more acute hospital beds compared to other patient groups. That's mainly because of their multi-morbidity, frailty and complex medical and social care needs.

The Geriatric Consultation team (GCT) established in August 2017 to supports emergency department in the management & timely disposition of complex older patients. The team conducts comprehensive assessment of patients and screen for geriatric syndromes in ED and facilitate early access to outpatient & community services. Further aim is to avoid unnecessary hospital admission & reduce readmission rate.

Materials & Methods: We selected our last 100patient in Hamad general Hospital (HGH) emergency department (ED), age 65 years and above. We have conducted comprehensive geriatric assessment & screened for geriatric syndromes e.g. falls, dementia, poly pharmacy, pressure ulcers, incontinence, hearing & vision loss, frailty in addition to impaired mobility. Furthermore, those patients were signposted to the correct provider as required e.g. falls clinics, memory services, geriatric outpatients & home health care. The team has also created Geriatric rapid access clinics (GRAC) to provide rapid easy access for the older patients attending ED.

Results: Poly pharmacy is clearly the most common geriatric syndrome as has represented 90% With impaired mobility coming second at 60%. Other geriatric syndromes we believe are more prevalent but have not been clearly documented, in end of June2018 we started using the initial comprehensive geriatric assessment (ICGA) which helped capturing more geriatric syndromes.

Conclusions: Geriatric syndromes are clearly common among older patients attending HGH ED. Poly pharmacy is present in almost all of older patients attending ED. Widespread ED comprehensive geriatric assessment will help facilitate identifying geriatric syndromes and hence aid their management.



Title: Infectivity of smear positive pulmonary TB after two weeks of rifampicin based antituberculosis therapy

Authors: F Howiday, N Elmaki, M Ali, M Al Masalmani, Z Al Suwaidi, M Mohamed, A Al Khal, H Alsaoub

Affiliations: Department of Infectious Diseases, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Background: Pulmonary tuberculosis is an important public health problem. Most data show the infectiousness of pulmonary TB diminishes rapidly after 2 weeks of effective therapy and the detected bacilli will be mostly dead.

Objective: We aim to assess this hypothesis by doing sputum culture after 2 weeks of therapy to assess the viability of the bacilli.

Materials & Methods: A prospective cohort study was conducted on patients admitted to Communicable Disease Centre (CDC), Qatar with smear positive pulmonary tuberculosis during the period November 2013— November 2014. We repeated sputum smear and culture after 2 weeks of rifampicin-based regimen to assess the infectivity. Demographic and clinical characteristics of patients was evaluated and compared to smear and culture conversion rate.

Results: Ninety-five cases were included in the study. All had sputum smear and culture after 2 weeks of supervised rifampicin-based therapy. Sputum culture at two weeks of treatment was positive in 91 cases (95.7%). Demographic and clinical characteristics were compared to the culture status after 2 weeks, found Patient from Indian subcontinent and symptoms >1 month are less likely to clear infection after 2 weeks with P value <0.05.

Conclusions: Majority of our patients in this study have positive TB culture after two weeks of rifampin based anti-tuberculosis therapy. So discontinuation of the isolation after 2 weeks of treatment assuming that bacilli in the smear are non-viable may not be safe.

Title: An evaluation of the burden, outcomes and economic impact of polypharmacy in long term patients in a tertiary hospital in Qatar

Authors: I Abdallah, I Abubeker, M Danjuma, S Al Shokri, H Chaudhary, M Chaudhary, M Mahmoud, A Kartha, A-Naser Elzouki

Affiliations: Department of Clinical Pharmacy & Department of Internal Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Polypharmacy is a global health burden among elderly patients. The aging population consumes 2-9 medications/day in average and is at high risk of adverse drug reactions and drug-drug interactions. The aim of this study is to explore and quantify this burden among long term patients at Hamad General Hospital (HGH).

Materials & Methods: Inpatient records of forty-two long term patients admitted to HGH were reviewed for data extraction.

Descriptive and inferential statistics were used to compare and report the characteristics of our patient population. Data was reported as mean (\pm SD) or median (IQR). Correlation analysis was applied to explore the association between patients' age, weight, creatinine clearance (CrCl), and number of in-patient medications. Regression analysis was used to investigate whether patients' baseline characteristics might aid in predicting CrCl and/or number of inpatient medications.

Results: The mean age of patients was 67 (\pm 20), most of male gender (73.9%) and Qatari nationality (76.2%), and with a median CrCl of 68.8 (41.5-88.1). Majority (76%) were prescribed more than 9 medications (mean 13 ± 4.87).

A statistically significant negative linear correlation between mean number of inpatient medications and CrCl was established ($r = -0.350$, $p = 0.043$), between mean age and number of Centrally-acting medications/antipsychotics ($r = -0.350$, $p = 0.005$), and a positive association between mean weight and number of pain medications ($r = 0.329$, $p = 0.047$). None of the patients' demographics were predictive of CrCl or number of in-patient medications.

Conclusions: Polypharmacy represents an economic and health burden among long-terms patients in HGH and is associated with worsened clinical outcomes. This necessitates re-evaluation of policies and clinical approach.

Title: Epidemiology and Microbiology of Liver Abscess in Qatar

Authors: A Husain, E Elmekaty, M Nooraldaim, E El Mulla, M Mohd, M Al Maslamani, A Al Khal, H Alsoub, S Hashim, H Ziglam,

Affiliations: Department of Infectious Diseases, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Liver abscess is a potentially life-threatening infection of hepatobiliary system, with substantial morbidity and mortality. It has a polymicrobial nature that greatly influenced by patients' characteristics and co-morbidities. This study was conducted to explore the epidemiology and microbiology of liver abscess in Qatar.

Materials & Methods: A retrospective chart review was conducted for patients with liver abscess, diagnosed based on clinical and radiological findings, between May 2016 to December 2017. Baseline characteristics, co-morbidities, presenting symptoms, microbiology findings, and time to abscess aspiration were collected using a standardized data collection sheet. Descriptive data was presented in frequency, mean, and median.

Results: Total of 32 patients diagnosed with liver abscess were identified. The majority of patients was males (90.6%), with a mean age of 37.2 ± 1.7 year, and was diabetic (28.1%). Fever and abdominal pain were the most reported symptoms (84% and 78%, respectively), followed by nausea, vomiting and diarrhea. Most of the patients (30 patients) underwent aspiration of the abscess, with a median time to aspiration of 2 days. The causative organism was identified in 46.9% of the pus samples, and *Klebsiella pneumoniae* (28.13%) was the commonest organism, followed by *Streptococcus* species (6.26%). Other isolated pathogens include *Pseudomonas aeruginosa*, *E. coli*, and *Haemophilus influenzae*. Amebic serology was performed for 23 patients in which 11 patients had positive results.

Conclusions: Pyogenic liver abscess is the most prevalent type of liver abscess in Qatar and *Klebsiella pneumoniae* is the predominant causative pathogen. Diabetes mellitus was identified as the most common co-morbidity in the study population. The time to abscess aspiration has substantial impact on the clinical and microbiological outcomes. So, the study period will be extended to larger sample size to detect any significant factor associated with improved outcomes in relation to time to abscess aspiration.

Title: Use of AP Vs PA view chest X rays in Medical facility of Hamad General Hospital Doha, Qatar

Authors: Fateen Ata, Phool Iqbal, Bassam Muthanna, Zubair Anwer

Affiliations: Department of Internal Medicine, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Chest x ray is one of the most common and most frequently used non invasive radiological diagnostic and follow up modality in Medical field. A chest X-ray is a fast and painless imaging test that uses certain electromagnetic waves to create pictures of the structures in and around your chest. Chest X ray is a simple, non-invasive procedure which does not require special preparation and is readily available in almost all the medical centers including primary to quaternary Hospitals. Radiology accounts for 6-10% of all health care expenditures and chest radiography examination represents up to 50% of the whole diagnostic radiology work-up performed. Most useful & commonly used Chest X-ray includes departmental PA and lateral views, when the patient stands or sits erect, but AP view is an image taken with a portable device, when a patient cannot maintain position required for a departmental PA view.

Materials & Methods: A study was conducted in the inpatient settings of the Medical Department of Hamad General Hospital. Thirty adult patients were selected randomly who were admitted in June 2018. Their data was gathered to analyse reporting, documenting and interpretations of AP view chest X rays.

Results: Out of 30 patients, 17 underwent AP view, whereas 13 underwent PA view Chest X rays. The number of patients immobile was 13 while 17 were mobile and able to maintain position for a PA view. 17 Chest X rays were reported on the same day, while 13 were delayed/not reported. 12 Chest X rays were documented by medical residents in their progress notes.

From this study we can put forth the following Problem statements which need to be addressed in order to maximize patient care and quality of health:

1. Unnecessary use of AP view films leading to avoidable radiation exposure
2. Delayed/no reporting which might have compromised maximum immediate effective patient care
3. Under documentation of findings of Chest X rays by primary team residents in progress notes

Radiation exposure has detrimental effects on patient health although not acute, but in the long run. AP view is comparatively more radiation damaging than PA view. According to one study "patient radiation dose from chest x-ray examinations in the West Bank- Palestine" the average effective doses for AP, PA and lateral projections were 0.14, 0.07 and 0.22 mSv, respectively. The amount of radiation you're exposed to during an X-ray depends on the tissue or organ being examined. During AP view considerably radio sensitive areas are directly exposed to rays compared to indirect exposure with PA view, for example thyroid, eyes, and breast.

Conclusions: The study concluded despite the fact AP view is more harmful and less informative as compared to PA view it has been done more than the PA view. We recommend avoiding the unnecessary use of AP views, which leads to avoidable radiation exposure. Delayed/no reporting might have compromised effective patient care, which should be addressed. CXR findings should be in progress notes by the residents and they should be trained to read chest X Rays correctly.

Title: Knowledge and practice of high value care (HVC) and healthcare waste among Internal Medicine Physicians in Hamad Medical Corporation, Qatar

Authors: A-Naser Elzouki*, Ahmed Al-Mohammed*, Abdul-latif Alkhal*/**, Ananad Kartha*, I Abubeker*, H Chaudhary*, J Parambil*, M Amir Waheed*, D Al-Mohannadi*, Ali Rahil*, W Ghadban*, Abdul Badi Abou-Samra*

Affiliations: *Department of Medicine and **Medical Education, Hamad Medical Corporation, Doha-Qatar

Background & Aims: The objectives of this study were to assess physicians' knowledge of costs of tests, medications and clinical services commonly used in out-patient and in-patient hospital settings and identify those practices that could be reduced without decreasing quality of patient care. A further aim was to promote HVC culture amongst physicians.

Materials & Methods: An anonymous electronic survey of 19-questions was distributed among 176 Internal Medicine faculties at three tertiary hospitals of Hamad Medical Corporation (HMC), focusing on current knowledge and practice of HVC, drivers of overuse of resources and exposure to HVC educational intervention.

Results: In total, 140(79.5%) completed the survey (of which 79% were males). One third (33.6%) of participants were unaware of HVC concept. Around two thirds of the respondents (64%) didn't know how to find the cost of tests, medications or other clinical services. Of the respondents, 92(65.7%) believed that the major factor contributing to healthcare waste unnecessary use of investigations however, 43(30.7%) respondents answered that they "sometimes" to "never" incorporated costs into making their clinical decisions. Less than half (45%) shared estimated costs with their patients. Majority said that the reason for overuse was defensive medicine (71.4%), diagnostic uncertainty (76.1%), inadequate patient follow-up (45.7%) or to satisfy patients' demands (52.2). Only 74(54.4%) reported that HVC and healthcare waste issues were discussed during medical rounds with trainees. Of the respondents, 52(37.4%) agreed that core education opportunities were regularly address HVC in their work place. Majority (59.4%) wants to learn more about HVC and healthcare waste throughout workshops or courses, and 51(31.3%) agreed to include HVC as a curriculum for trainees at HMC.

Conclusions: Internal Medicine physicians at HMC had insufficient knowledge and practice of HVC and inadequate appreciation of healthcare waste. Interventions are needed to increase awareness and promote HVC culture which could lead to high-quality, lean healthcare changes.

Title: Epidemiology and Clinical Outcomes of Viral Central Nervous System Infections in Qatar

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Background & Aims: Central nervous system (CNS) viral infections are an important cause of morbidity and mortality. No data are available regarding their epidemiology in Qatar.

Materials & Methods: We retrospectively evaluated all cerebrospinal fluid findings from January 2011 – March 2015 at Hamad Medical Corporation. Those with abnormal CSF finding were included in our study. We excluded those with missing medical records, no clinical evidence of viral CNS infection or proven bacterial, fungal or tuberculosis CNS infection. CNS clinical findings were classified as meningitis, encephalitis or myelitis.

Results: Among 7,690 patients with available CSF results, 550 cases met the inclusion criteria (meningitis 74.7%; encephalitis 25%; myelitis 0.4%). Two-thirds (65%) were male and 50% were between 16-60 years old. Viral etiology was confirmed in 38% (enterovirus, 44.3%; Epstein-Barr virus, 31%; varicella zoster virus, 12.4%). The estimated incidence was 6.4 per 100,000 population.

Two persons died and the rest were discharged home. Among those with confirmed viral etiology, 83.8% received ceftriaxone (mean duration 7.3+5.2 days), 38% received vancomycin (mean duration 2.7+5.4 days) and 38% received at least one other antibiotic. Intravenous acyclovir was continued for more than 48 hours in patients with confirmed negative viral etiology (mean duration 5+5.6 days).

Conclusions: Viral etiology is not uncommon among those evaluated for CNS infection in Qatar. Clinical outcomes are excellent in this group of patients. Antibiotics and acyclovir are overly used even when a viral etiology is confirmed. There is a need for clinician education regarding etiology and treatment of viral CNS infections.

Title: Clinical and epidemiological characteristics of cryptococcosis: a ten year retrospective study

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Background & Aims: Cryptococcosis is an opportunistic fungal infection mostly affecting immuno-compromised patients. It can be life threatening even in apparently immuno-competent patients. The objectives of this study were to identify the clinical and epidemiological characteristics of cryptococcosis as well as determine its clinical outcome.

Materials & Methods: This was a retrospective-observational study of all culture-confirmed cases of cryptococcosis conducted at the main seven hospitals in the State of Qatar from January 2005 to December 2016.

Results: The mean annual incidence was 0.65 per 106 population. Among the 14 confirmed cases of cryptococcal infection, males constituted the vast majority of cases (13 males) with a median age of 39 year (range 6-72). Majority of patients (13) were expatriates (mostly from Asian subcontinent). Four patients had HIV with low CD4 count and five were receiving immune-suppressant medications. The rest of patients were apparently immune-competent. Subacute manifestation was characteristic, with a median duration of symptoms of 14 days. Central nervous system was the most common site of infection (8 patients) followed by blood stream infection and pneumonia (3, and 2 patients, respectively). One patient had cryptococcal scrotal infection. Twelve isolates were *Cryptococcus neoformans* and 2 were *Cryptococcus laurentii*. All isolates were sensitive to amphotericin B and fluconazole. Thirteen patients received liposomal amphotericin B during the induction phase with a median duration 23±10 days. Fluconazole was given during the continuation phase with a median duration 54±52 days. Only 2 patients with blood stream infection (HIV negative) died. The rest of patients were cured from the infection and discharged home.

Conclusions: Cryptococcosis is a rare fungal disease in the State of Qatar, mostly diagnosed in Asian immigrants. Central nervous system is the most common site of infection. The presence of the fungus in the blood carries high mortality.

Title: Middle East respiratory syndrome coronavirus profile in Qatar: A 7-year retrospective study

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Background & Aims: A deadly zoonotic Middle East respiratory syndrome coronavirus (MERS-CoV) had emerged over the last 7 years in the Arabian Peninsula. As of Feb 28, 2018, 2182 cases of MERS-CoV infection (with 779 deaths) in 27 countries were reported to WHO worldwide. The objectives of this study were to identify the clinical and epidemiological characteristics of MERS-CoV infection as well as determine its clinical outcome.

Materials & Methods: This was a retrospective-observational study of all laboratory confirmed cases of MERS-CoV infection conducted at the main seven hospitals in the State of Qatar from January, 2012 to April 2018. We used the Fast Track diagnostics real-time reverse-transcription polymerase chain reaction (rRT-PCR), targeting the upE and ORF1a genes respectively. Demographics, clinical information, potential contacts and probable risk factors were collected and analyzed by standard statistical methods.

Results: The mean annual incidence was 1.7 per 100,000 person years. Among the 24 confirmed cases of MERS-CoV, males constituted the vast majority of cases (23 males) with a median age of 52 years (range 22-74). 50% of the cases were Qatari and 42% reside in the same region. 67 % of the cases had contact with camels, and 21% had human-to-human contact. 38 % had travel history within 2 weeks of symptoms onset to the Kingdom of Saudi Arabia. 50% were smokers and 42% had comorbidities.

The median symptoms duration was 4.5 days. Most of the patient presented with flu-like symptoms, were fever was the most common presentation, followed by cough, SOB, diarrhea, abdominal pain and headache, 96%, 83%, 33%, 8%, 8% and 4 % respectively. All patients were admitted to a tertiary hospital with a median hospital stay 41 days (8-97). Thirteen (45%) patients developed severe sepsis with multi-organ failure and needed ICU admission. 33% of all patients died. The rest of patients had recovered from the infection and discharged home. Among those who died all had other comorbidities.

Conclusions: MERS-CoV infection is a rare infection in the State of Qatar, seen in both Qataris and expatriates with and without travel history. The infection in patients with comorbidities carries high mortality.

Title: To illustrate the association between AVF placement locations and their complications.

Authors: N Chouayet, A Alyazidi, A Ahmed, I El Madhoun

Affiliations: Department of Nephrology, Alwakra Hospital, Hamad Medical Corporation, Qatar.

Background & Aims: Arterio-venous fistula (AVF) is a key part of delivering Hemodialysis treatment for patients with ESRD. However, AVF is always at risk for progressive deterioration in its function. Thus, early detection of possible complications is a necessity for HD nurses.

Materials & Methods: We recruited 39 active patients with AVF who dialyzed in our unit at Al Wakra Hospital in July 2018. This includes 26 males and 13 females. We collected data from Cerner Database and analyzed them using Excel-Microsoft.

Results: At our unit 45% of our patients have AVF, 41% of them have Lower Arm (LA) AVF placement versus 32% in the US, and 95% in Japan. The use of AVF Upper Arm (UA) is 59%, 68%, and 5% respectively. Clearly, there is a higher use of UA at our unit and the US in contrast with Japan. Despite of the recommendations by KDOQI to use LA placement, 43.7% of LA had complications compared to only 30.4% of the UA. Also, men have 13% higher use of LA and 15% lower use of UA comparing to women.

Conclusions: The use of LA is associated with lower incidence of complication as well as higher patency rate and longer survival. However, the higher complication incidence may indicate the impact of other factors such as, age, gender, and co-morbidities.

Regardless of the efforts in increasing AVF numbers in HD patients, we need to focus on the best choice for AVF location.

Title: The association of ABO blood type with cerebrovascular disease in Qatar

Authors: Z Yousaf, A Khan, H Chaudhry T Hamid, I Kamal

Affiliations: Department of Internal & Cardiovascular medicine, Hamad General Hospital, Hamad Medical Corporation, Doha, Qatar

Background & Aims: Several studies have hypothesized the association of ABO blood group with development of cardiovascular, cerebrovascular, oncological and other diseases as it affects haemostasis. These studies (mostly done on Caucasian populations) have shown Blood type AB is associated with an increased risk of stroke.

Materials & Methods: To assess the association of ABO blood type with cerebrovascular disease in population belonging to Indian subcontinent and Middle Eastern region.

A retrospective clinical study was performed through case notes review of 50 patients (age>18 years) presenting with acute stroke (ischaemic or haemorrhagic) to Hamad General Hospital.

Results: A total of 50 patients were checked in our study, 17 (38%) were female. The median age was 54 years (range 24-88 years). 22 patients each were Arab and Indians respectively, whilst 6 were from other nationalities. Stroke risks included Hypertension, Hyperlipidemia and diabetes in 72%, 44% and 24% respectively. Ischemic stroke was diagnosed in 33 (66%) patients, whilst 17/50 (34%) had hemorrhagic stroke. All patients underwent local stroke protocol work up. Analysis of ABO blood group data showed blood group O in 50% of patients, blood group B in 28% and blood group A in 16 % while blood group AB was found in 6% of patients. Among patients with ischemic stroke, 52% had blood group O while 48% had non-O blood group. On the other hand, in patients with hemorrhagic stroke, 47% had blood group O and 53% had non-O blood group. The statistical analysis using Fisher Exact test, there was no significant difference in Blood group O and non-O group in both ischemic and haemorrhagic stroke.

Conclusions: Our study (limited patients) found that all patients with stroke received appropriate investigations. There was no difference of association of stroke with various blood groups. However, further studies in this population with larger sample size are needed to adequately assess the possible association which has been reported by some of the larger studies carried out in Western population.

Title: Effectiveness of Flaxseeds in Controlling Blood Sugar Level in Type 2 Diabetes Mellitus

Authors: S Mubarak, F Abraham

Affiliations: Internal Medicine, Yenepoya Hospital, Mangalore, India

Background & Aims: The prevalence of diabetes mellitus can be controlled by complementing effective dietary interventions with medications. The purpose of the study is to assess whether there is any significant difference in blood sugar levels with flaxseed consumption in Type 2 diabetic patients

Materials & Methods: A total of 75 patients were included in the study. Each patient was treated as control and test group on 2 consecutive days. The control group underwent random blood sugar testing twice at a fixed time (6pm and 7pm) without any intervention on first day, and on the consecutive day same patient was treated as test group by administering 30g flaxseeds in 200 ml of water at 6pm, test group underwent random blood sugar testing prior to intervention (6pm) and after 1 hour of intervention (7pm). Patient was strictly monitored to follow same diet and medication during the course of study.

Results: A total of 75 type 2 diabetic patients were studied in order to understand the effect of flaxseeds in improving glycemic control. From the study it was observed that patients were found to have significant reduction in the blood glucose level after consuming flaxseeds. Mean blood sugar values of control group at 6pm is 202.20 ± 81.48 and 7pm is 221.99 ± 91.23 ($p < 0.001$), whereas blood sugar levels of test groups at 6pm is 211.95 ± 78.08 and 7pm is 195.55 ± 93.38 ($p < 0.001$).

Conclusions: Flaxseeds being a feasible and effective food, it is essential to consider it as one of the early dietary recommendation, as it was inferred from our study, the diabetic patients with fairly good glycemic control can further control their blood sugar levels with consumption of flaxseeds and hence achieve better glycemic control with same medications. Further detailed studies should be conducted for understanding the effect of flaxseeds on glycosylated haemoglobin levels in type 2 diabetes mellitus to assess long term effects of flaxseeds on glycemic control.

Title: A Pilot Study of IV Fluid Administration in Hamad General Hospital, Doha Qatar

Authors: A Rehman, M Uddin, H Safo, M Abu Tineh

Affiliations: Department of Internal Medicine, Hamad General Hospital, Doha, Qatar

Background & Aims: Intravenous fluids are one of the commonly prescribed hospital treatments. IV fluid use in resuscitation scenarios such as traumatic blood loss is well evidenced, other acute medical scenarios such as shock, Acute Kidney injury, fluid therapy is highly recommended in many guidelines and reviews. International sepsis guidelines recommend use of IV fluid is a cornerstone of modern therapy

Materials & Methods: From the hospital electronic health record all patients admitted to the Medical wards between July 2018 were identified. Records of patients were analysed both medical notes and prescription retrospectively. Data were collected and analysed in Excel sheet.

Results: 88 patients were audited of which 50 patients on IV fluid (56%). 37(74%) patients had fluid management plan was documented. 35(70%) patients required Fluid resuscitation as bolus on admission of which 12 (34%) shows sign of shock, 20(57%) had sepsis or inflammatory conditions. 36(72%) patients required routine IV fluid maintenance however only 3(8%) received electrolytes supplementation and 7(14%) was prescribed adequate glucose. Patients on maintenance IV fluid, 9(25%) had chronic conditions and 5(14%) on medications which might adversely affect their fluid status of the body.

Conclusions: Majority of patients required IV fluid resuscitation are shows sign of shock, sepsis and acute inflammatory conditions. All patient's fluid needs were assessed and appropriately prescribed. Patients required maintenance IV fluid, not adequately replaced their electrolytes and glucose to avoid starvation and ketosis. Patients had chronic conditions, needs caution on prescribing routine maintenance IV fluid.

QUALITY IMPROVEMENT – POSTER PRESENTATIONS

(QI – PP)

Title: The Chart Audit Project

Author: Rania Tamimi

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Background: Incomplete medical chart documentation in Internal medicine clinic. which includes lack of reconciliation, lack of document heading, lack of allergy documentation, lack of proper vaccination, lack of proper Cancer screening, lack of vital signs documentation. all this will have bad effect on our patient care.

Methods: Using the Chart Audit project tool. please see the tool in the abstract template. The chart audit tool covered the missing gap that I identified in Internal Medicine Clinic documentation and patient care, this included (reconciliation, Allergy review, Blood pressure, BMI, Smoking, required vaccination, Problem list, Documentation heading, required age specific screening) It was first implemented to Internal Medicine Clinic in October 2016.

Results: Within 2 months of implementing the Chart Audit Project we started to notice the improvement in the documentation process and patient care that included all the categories covered by the Chart Audit project tool and improved the way our document looks.
20 months after implementing the chart Audit Project:
Improvement in reconciliation: from 21% to 97% (improved by 76%)
Improvement in problem list documentation: from 46% to 93% (improved by 47%)
Improvement in BMI documentation: from 54% to 93% (improved by 39%)
Improvement in documentation heading: from 76% to 100% (improved by 24 %)
Improvement in smoking documentation: from 75% to 97% (improved by 22%)

Conclusions: Chart Audit significantly improved the process of patient chart documentation, the effect was very clear on the categories that were included in our tool (reconciliation, Allergy review, Blood pressure, BMI, Smoking, vaccination, Problem list, Documentation heading, required screening) but at the same time significantly improved the whole process of documentation. By this we will consider adding more categories to the tool And probably consider Implementing The Chart Audit Project to other outpatient Departments at Hamad Medical Corporation

Title: 360 degree Physicians Performance Evaluation at Internal Medicine Clinic at Hamad General Hospital

Authors: A Mohammed, A Al-Kubaisi, N Masoodi, L Chacko

Division of General Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Internal Medicine Clinic (IMC) at Hamad General Hospital (HGH) is a new multi-disciplinary clinic with Consultant physicians working with General Medicine background in addition to other subspecialties.

Research in both industry and medicine shows that multi-source feedback systems (i.e., 360-degree feedback) can result in individual improvement and the adoption of new practices.

Methods:

- Initial meeting with leadership and planning followed by multiple PDSA cycles
- The project implemented in IMC since April 2016
- Educational activity was conducted for the team prior to final implementation
- Evaluators may include those to whom the physician reports and those to whom the physicians delegates.
- Each clinician had 5 participants: 1 physician, 2 nurses, 1 receptionists and 1 Pharmacist
- Anonymous online survey was generated and sent by SharePoint team (IT team at HMC)
- Data was analyzed by the IT system and reviewed by leadership and discussed with individual clinician

Results:

- 3 cycles has been conducted so far
 - 15 Physicians per cycle underwent 360 degree survey (total of 45 physicians surveys)
 - Response from participants/ evaluators were found to be >70% per clinician
 - Results varied between individual physicians as expected. All were rated at 3 or more in the individual components of the survey
 - Average score in four domains:
 - Quality of work – 3.52
 - Team Work – 3.5
 - Communication- 3.39
 - Personal Qualification and Leadership- 3.57.
- Overall in all domains team members were above average giving positive impact on patient care.

Conclusions: The 360-degree feedback gave an opportunity to the Physicians in enhancement of their professional development with quality feedback from peers and colleagues that helped by facilitating the development of insight and to focus in future professional development
The result can serve as benchmark for the future comparison.

QI 3 – PP

Title: Sedation use in endoscopy: Insights from reviewing unit practice and trends

Authors: O Dulman, N Shaath, A Andrew, K Ruizo, S Sebastian, L Kuriakose, H Aly

Al Wakra Hospital, Doha, Qatar

Background: The performance of endoscopy procedures have increased considerably in number and complexity. Most endoscopies are performed with patients under moderate sedation, typically induced by a combination of a benzodiazepine sedative and an opioid analgesic, which have complementary effects with each other.

The purpose of this study is aimed at re-evaluating current practices in Al-Wakra Hospital (AWH) Endoscopy Unit as to sedation use during gastrointestinal (GI) endoscopy. It seeks to establish best practices toward paramount outcomes for the patient.

Methods: This audit is a retrospective study of information from AWH Endoscopy Unit's patient reports and procedure logs in 2017. Data on sedation administered during endoscopy by endoscopy nurses as ordered by each of the five AWH GI endoscopists for six random months (total of 1095 patients) were collected, analyzed, compared and interpreted based on current available international practice standards and recommendations.

Results: This review looked into the practices and trends in AWH Endoscopy Unit as to sedation use during GI endoscopy. Information emerging from the analyses and comparison of data shows that majority of the endoscopists favors the use of midazolam with fentanyl (MF) in most of their endoscopy procedures, including routine upper GI endoscopies.

Conclusions: Although the literature suggests that MF sedation has been found to be effective, studies also caution that the concomitant use of a benzodiazepine with an opioid has a synergistic effect on the risk of cardiorespiratory complications. The lone use, therefore, of midazolam especially in quick diagnostic upper GI procedures is worth considering. Should an MF combination be deemed necessary, a reduction in the dose of both drugs may be indicated? Keeping sedation administration to the minimum necessary amount offers several potential advantages – lower cost, less risk, and decreased post-procedural impairment, allowing patients to resume their normal routine sooner.

Title: Cecal Intubation Rate during Colonoscopy Patient procedures in Al Wakra Hospital-Endoscopy Unit-2017

Authors: N Shaath, A Sayed, A Andrew, S Albert, J Kosh

Department of Medicine – Endoscopy, Al Wakra Hospital, Qatar

Introduction: Caecal intubation is defined as insertion of the colonoscope tip into the caecal caput so that the medial wall of the caecum proximal to the ileocaecal valve can be fully inspected.

The quality of colonoscopy may influence the extent of the protective effect of colonoscopy on colorectal cancer(CRC) on Caecal intubation rate is an important indicator of colonoscopy quality Success caecal intubation reflects a quality colonoscopy and regarded as quality indicators for colonoscopy

According to the recommendations of the US Multi-society Task Force on Colorectal Cancer, rates above 90% for all colonoscopies and above 95% for screening should be achieved

Objectives of the study: The purpose of the study is to revise the success rate of the department of endoscopy in Al-Wakra hospital in achieving a full thorough colonoscopy as regards diagnostic maneuvers caecal intubation and therapeutic ones Polypectomy and comparing the results .

Materials and Methods: We assessed caecum intubation rates amongst colonoscopies recorded in Al-Wakra hospital - Endoscopy unit during the year of 2017 (January – December). All cases of colonoscopy done during that were referred from Al Wakra Gastroenterology clinic, Primary health center (PHC) and Private Hospital in Qatar included without exclusion. The team of GI physicians who is performing the colonoscopy procedures are: One Senior Consultant, Two GI Consultant and Two GI Specialist

Result and Analysis

- Total number of colonoscopy cases in 2017 was 728 cases.
- Total number of successful cases of caecal intubation was 691 out of 728 (94.91%).

Discussion and Conclusions: Our total rate for the year 2017 in the Endoscopy Unit of Al-Wakra Hospital was 94.91%, which is an acceptable rate as recommended by the US Multi-society Task Force on Colorectal Cancer.

Such good results can be attributed to the joint work of the physicians and nursing .

Title: Trends in hand hygiene compliance in Al Wakra Hospital Endoscopy Unit

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Department of Medicine – Endoscopy, Al-Wakra Hospital, Qatar

Background: Health care associated infections are drawing increasing attention from patients, insurers, governments and regulatory bodies. Hand Hygiene has been identified as a high priority for the prevention of health care associated infection (HAI). It is the single most effective intervention for preventing HAI.

The 3 most frequently reported methods of measuring hand hygiene compliance are: (1) direct observations, (2) self-reporting by health care worker, (3) indirect calculation based on hand hygiene product usage.

Methods: This study used data from monthly hand hygiene compliance reports in the AWH Endoscopy Unit for the year 2017. AWH Endoscopy Unit IPC link nurses used the WHO hand hygiene tool to collect data. A minimum of 200 monthly observations for hand hygiene (hand washing or hand rub) was done as required by IPC department in AWH; compliance target set at 90 percent. Observations were made on different personnel including Doctors, Nurses and Allied personnel. All data collected was submitted to AWH IPC department for analysis and interpretation.

Results: The trend of hand hygiene compliance in AWH Endoscopy Unit was consistently exceeding the target of 90 percent every month.

AWH IPC link nurses observers still notice some staff not consistently complying to hand hygiene standards. According to the observers the non-compliant staffs were observed during busy hours, when there is staff shortage and during emergency situations.

Hand hygiene data suggest that health workers in AWH Endoscopy Unit are maintaining satisfactory reports on hand hygiene practice.

Conclusions: The authors recommend the continuing monthly data collection as set by AWH IPC department. Disseminate the data among health care worker. Adhere to AWH IPC department campaign for hand hygiene and continue awareness session for staff about hand hygiene.

Title: A Clinical Audit on Assessment of Smoking and Approach to Smoking Cessation Strategies among patients with cerebrovascular disease at Hamad General Hospital

Author: A Khan, M Zahid, Z Yousaf, R Sharma

Department of General Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Smoking is a major risk factor for cardiovascular and cerebrovascular diseases and is the leading preventable cause of mortality. Smoking is responsible for nearly 5.4 million deaths per year worldwide. In its 2016 guidelines, European Society of Cardiology recommends the use of 5A's approach for assessing tobacco use and smoking cessation that involves Ask (smoking status), Advise (to quit smoking), Assess (motivation to quit smoking), Assist (in smoking cessation) and Arrange (follow up).

Aims: Aim of this clinical audit was to review Physician's adherence to assessment of smoking and smoking cessation strategies as per international recommendations.

Methods: This audit was conducted on patients admitted with Transient ischemic attack (TIA) or stroke (ischemic & Hemorrhagic) in Stroke ward and Acute Medical Assessment Unit (AMAU) at Hamad General Hospital. Data was gathered for 100 patients anonymously following discharge from in-patient between July' 2017 to July' 2018. The 5A's strategy for smoking cessation was employed to assess for adherence as recommended by European Society of Cardiology.

Results: 45% of the patients were non-smokers, 29% were smokers and smoking history was not assessed in 26% patients. Out of the 29 smokers, only 8(28%) patients were advised to quit smoking and only 1(3%) patient was initiated on nicotine replacement therapy. 8 (28%) patients were referred to smoking cessation clinic.

Outcomes of a survey conducted among residents regarding 5 A's approach to smoking cessation show that 80% of the residents were unaware about the 5A's approach for smoking assessment and cessation.

Conclusions: Results show that resources for smoking cessation are underutilized and this is in line with audits previously conducted at other centers.

We recommend:

1. All patients with cerebrovascular disease should be assessed for smoking using 5A's approach.
2. All smokers should be provided with written information on smoking and referred to smoking cessation clinic
3. Education of health care professionals regarding approach to assessment of smoking and smoking cessation strategies.
4. Re-audit in 6 months time to reassess the practice

Title: Implementation of Drugs Alternative Program to Enhance Patient's Compliance at Al Khor Hospital OPD.

Authors: E Isaid, S AL Rumaiha, Z Ben Abbes, M Titus, S Jose, R Mohammed, K Abd Elnabi, A El Gelil, A Shahada, G Correa

Division of Medicine, Hamad Medical Corporation – Al Khor Hospital, Doha, Qatar.

Background:

- In pharmaceutical industries, there are many drug alternatives used to treat certain acute/chronic health problems that are equally safe and effective.
- 70- 80% of Al-Khor Hospital (AKH) patients are laborers with very low income who cannot afford expensive medications for their chronic health problems even though with the health Card provision.
- We observed multiple incidents of patients leaving behind the prescribed medications without collection due to financial concerns.

Aims:

- To achieve and maintain chronic disease stability by offering an affordable and efficient drug alternative through implementing drugs alternative program in medication management.
- To achieve an overall estimate of 15% cost reduction in the selected categories of medication by implementing drugs alternative program in medication management.

PROJECT SCOPE

- The project is targeting outpatients diagnosed with chronic illnesses (DM Type 2, Dyslipidemia & Gastro-esophageal Reflux Disease “GERD”) attending Medicine Clinics at AKH.
- 3 main medication categories identified as high consumption for chronic illnesses with a big variation in price:
 1. DPP4 inhibitors- Anti-diabetes
 2. Statins- Anti-lipids
 3. Proton pump inhibitors (PPIs)

Methods:

- The project followed FOCUS -PDSA quality methodology.

Results

- 60 % of targeted patients switched to the least expensive drug alternative.
- 100% of switched patients are controlled after switching to the least expensive drug alternative.
- 2 Adverse Drug Reaction “ADR” reported between Nov 2017 – April 2018 (same class effect).
- Overall, 5% costs saving achieved.

Conclusions: In conclusion, the team found that the use of alternative drugs is safe, beneficial and cost effective for both the patient and the Corporation. The project will continue and we strongly recommend adapting the project to other Specialties/HMC Facilities.

Title: Hemodialysis Patients free from HCV infection in Qatar: A Multidisciplinary Approach

Author: M Elesnawi, F Al-Ali, I Khater, M Darbela, A Ibrahim, S Ismail Aly, F Farooqi, H Ismail, A Elsayed, S Joseph, H A/Hamid,

Dialysis Unit, Hamad Medical Corporation, Doha, Qatar.

Background: Hepatitis C is an infectious disease caused by the hepatitis C virus (HCV). Chronic hepatitis C develops in most people infected with HCV and can cause serious complications, such as end-stage liver disease. Qatar National Plan for HCV control by 2020 was launched in December 2014, elaborated by a group of stakeholders from the Qatar ministry of Public Health and Hamad Medical Corporation. The prevalence of HCV in hemodialysis patients in Qatar is 8.4 % (predominantly Genotype 4). Since the launch of the Qatar plan for “HCV control by 2020”, the treatment of HCV in hemodialysis patient has been a challenge. The approval of ombitasvir, paritaprevir, and ritonavir (Viekirax) has been accepted as a treatment option in this group of patients.

Aims: 100% cure in all HCV patients in First Phase of Treatment and We aim to explore the effectiveness and safety of this regimen in a Genotype 4 predominant population without using ribavirin, known to cause anemia.

Methods: Non-Interventional, single-center cohort study, including retrospective collection of real world data on 58 hemodialysis patients infected with HCV, 29 of them completed the 29 weeks treatment and 12weeks follow up period.

Result: - from 58 HCV positive Patients we initiate the treatment for 29 patients for 12 weeks and 100% of them cured, during the treatment biochemical values was within normal limits.

Conclusions: The outcome treatment of CHC in patients on HD is highly effective, with SVR12 rates 100 %. Hematologic adverse events, which were frequently observed among HD patients receiving ribavirin-based antiviral regimens, were rare during treatment; Successful HCV antiviral treatment will decrease the risk for infection transmission within dialysis units, and reduce the occurrence of complications occurring after kidney transplantation.

Title: “Serum Albumin not only a Marker of Nutrition” -A prospective study in Peritoneal Dialysis Population, FBJ-KC-HGH

Authors: M Elesnawi, F Al-Ali, A Ibrahim, S Khan, A Elsayed, L Chacko, V Lonappan, M Gonzales, S Ismail Aly, D Al-Daoud

Dialysis Unit, Hamad Medical Corporation, Doha, Qatar.

Background: Fahad bin Jassam Kidney Center is the main provider for PD, and over the period of q 3 & q 4 2016 serum albumin fall down (>34) to 57% & 54% respectively from the q1 & q2 2016 respectively 65% & 64%. With this incident we run a prospective improvement trial to improve the Serum Albumin level

Aims: To improve the percentage of PD patients with Serum Albumin level >34 from 54% to 65% by Q2- 2017

Methods: We undertook root cause analysis for each case of hypoalbuminemia ($SA < 34$) in the 6 months preceding the trial to identify any predisposing risk factors like inflammation, volume overload, effects of ARB medication, PD modality versus to the peritoneal membrane, loss of protein through urine. The main leading factors to hypoalbuminemia are from Poor dietary intakes, inflammatory effects and loss of protein through dialysate.

Dietary-Patients food habits assessed, provide variety of educational material and supplements for different type of protein foods

PD Modality-Change the modality of PD (CAPD, Cycler PD) according to the PET.

Medical-Treat the comorbid conditions like infections and inflammations

Nursing-Close monitor on the monthly serum albumin. Arrange the availability of supplements on patient arrival at PD unit from the main store

Results: Serum Albumin improves to 64% by q2-2017 and continuous improvement is there till q2-2018 (68%). The study shows that as the SA improves; there is a good impact on the adequacy, mortality, inflammation, control of DM, technique failure and total quality of life

Conclusions: As we improve the Serum Albumin, patient's general health status and quality of life improved. While correcting the PD prescriptions, adequacy also have good improvements.

Title: Impact of opening further Gestational Diabetes Clinics on Hospital admission rate for glycemic control in pregnant women with Diabetes in Al Khor hospital.

Authors: R Hammamy, W Ghadban, H Charles

Department of Internal Medicine, Al-Khor Hospital, Hamad Medical Corporation, Doha, Qatar.

Background: Open gestational diabetes clinics are designed to provide the best clinical care and support women patients with diabetes during pregnancy to improve maternal and fetal health outcome. Another goal of these clinics is to reduce the unnecessary hospital admission to optimize glycemic control during pregnancy. The gestational diabetes clinic was established in Al Khor hospital with one clinic per week since 2013 and expanded to two clinics per week from May 2015 to cope with the growing service demand.

Aims: To evaluate the impact of delivering more Gestational Diabetes clinics on the rate of hospital admissions for optimizing glycemic control in pregnant women with diabetes.

Methods: Data from January 2013 until December 2017 looking for the total admission rate to the obstetric department, measuring specifically the rate of admission for glycemic control in pregnant women with diabetes before, and after implementation of the second clinic, which opened in May 2015.

Results: The study shows an increase in the total number of obstetric admissions in Al Khor hospital by 35%, from 2168 patients (Year 2013) to 2935 patients (Year 2017).

The percentage of admissions for glycemic control has reduced from 8% (Year 2013) to 5.5% (Year 2015) and a further reduction of 4.5% (Year 2017)

We found that 50% of pregnant women with diabetes admitted by obstetric physicians for glycemic control in 2017 they do not meet the admission criteria according to NICE guideline and can be managed in outpatient.

Conclusions: Utilization of extra gestational clinic has significantly reduced the need for hospital admission to optimize glycemic control during pregnancy. Still further improvement can be achieved to reduce the rate of admission; by doing further patient education in outpatient and by improving the direct communication between obstetric physician and diabetes physician before the decision of admission.

Title: “Not every Dizzy patient has a stroke” - Do we properly evaluate patients presenting with dizziness?

Authors: M Zahid, K Mushtaq, M Jamshaid, A Omer, M Ali, T Alyamni, B Tanous, K Khudabaksh, M Saliba,

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Dizziness is a common presenting complaint that has differential diagnosis ranging from benign conditions such as peripheral vestibular problems to serious diagnoses such as cerebrovascular diseases & cardiac dysrhythmias. Dizziness accounts for 4.4 million Emergency Department visits in US (4% of total ED visits). Bedside neurological examination including HINTS (Head Impulse, Nystagmus Type, Skew deviation) and Dix-Hallpike test rules out stroke more accurately than early MRI.

Aim: Do we perform appropriate clinical assessment of dizzy patients or rely only on brain imaging to reach to diagnosis?

Method: Notes of 60 patients, who presented with acute dizziness were evaluated. We looked whether thorough neurological examination including HINTS and Dix-Hallpike tests were performed or not along with results of imaging studies and outcome.

Results: Out of these 60 patients, 36 patients had only acute dizziness while 24 patients had some additional neurological deficit. Nystagmus was reported in 9 patients only, but no documentation of HINTS or Dix-Hallpike tests in any of these patients. 50 out of 60 patients had CT head. Only 4 patients had findings suggestive of acute stroke. MRI brain was done for 54 patients, (Acute Ischemic Stroke 3, Small Vessel disease 10, Multiple Sclerosis 2, Incidental findings 3). MRI was reported as normal in 37 patients. Out of 60 patients, Acute stroke was the final diagnosis for only 5 patients. 2 patients were diagnosed with MS while one had encephalitis. 52 patients were diagnosed as having peripheral vertigo or nonspecific illness.

Conclusions: None of the patient presenting with dizziness had complete neurological assessment. Inappropriate neuroimaging was carried out in most of the patients.

Recommendation

- 1) Training of residents on thorough neurological assessment using HINTS and Dix-Hallpike tests
- 2) Design a clinical pathway for patients with acute dizziness to minimize inappropriate neuroimaging
- 3) Bring on changes to improve the practice using PDSA Model for improvement method

Title: Improvement in the compliance of sepsis six bundle for patients in medical wards at Hamad General Hospital

Authors: A Jones, A Rehman, P Gellego, M Abdelkrem, M Shehadah, J John, T Batia, R Al-Khawaja, I Shoshan, S William, S Abdelrahim

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection. Mortality from sepsis increases 8% for every hour that treatment is delayed. Through the National Patient Safety collaborative, sepsis has been identified as area of focus. Sepsis six bundle is to be utilized, which include measuring lactate level, drawing blood cultures, administering oxygen, IV fluids, antibiotics, and measuring output, within one hour. All major hospitals across Qatar were tasked to implement sepsis pathway, which includes compliance to sepsis six bundle

Methods: A multidisciplinary team was formed to improve the process of management of sepsis on medical wards, and to be compliant with the sepsis six bundle. Baseline data was obtained by reviewing patient on medical wards in which RRT was activated, from Dec 2017 - May 2018. Once we identified patients with sepsis, we measured compliance to sepsis six bundle, also measured the median time in which antibiotics was given, from time zero. Interventions and change concepts that were implemented included; choosing sepsis champions for each ward, establishing a data collection form, ensuring appropriate antibiotics are available in pyxes for immediate use, developing a sepsis kit, education by completing e-learning module, conducting surveys regarding knowledge of sepsis. Starting in June 2018, collected data using data collection form.

Results: Baseline data revealed 0% compliance of the bundle for 11 case observed, with median percentage of each component completed was 50%. Median time of administered antibiotics from time zero was 182.25. From June 2018-Sep 2018 revealed 41% compliance to the bundle for 17 cases observed, with median percentage of each component completed of 83 %. Median time of administered antibiotics from time zero was 49.75

Conclusions: The interventions utilized showed improvement in compliance to the bundle and decrease in time to deliver antibiotics. Mortality is expected to improve.

Title: Improving patient care through patient instruction summaries; a clinical Audit, Outpatient Clinic at Hamad General Hospital, Qatar

Authors: S Al-Shokri, G Karuppasamy, M Abdulghani, S Elebbi, A Sukik, Y Ibrahim, A Mohammed

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Outpatient clinics in internal medicine have a fundamental function in managing chronic illness, and major interaction between doctors and patients happens there. Poor understanding of the follow-up instructions can frustrate patients and impact the quality of care. Patients often prefer combined oral and written instruction summary [1].

We aimed to evaluate physicians and patients' perspective on current practice regarding instructions in the outpatient clinics at Hamad General Hospital and explore their perception about instruction summaries.

Methods: We developed survey instrument to assess physician awareness and perceptions on the patient instruction summary.

Surveys were also distributed to patients visiting the medicine outpatient clinics, to evaluate their satisfaction regarding the instructions that they receive currently.

Results:

- 31 internal medicine residents participated in the survey.
- 85% of the respondents were not aware of post-visit instruction summary and they had not used it.
- 85% reported that handing an instruction sheet post-visit would be useful.
- Physician reported that the most common factors leading to misunderstanding of follow-up instructions are poor communication and language barrier (62.9%).
- 48% of the respondents felt that the follow-up instructions were too complex, and 25.9% related it to patient's level of education.
- 22 patients following in the medicine outpatient clinic participated in the audit.
- 100% reported that instructions were delivered clearly regarding laboratory and radiological

Investigations:

- 90% responded that medication change instruction was given clearly.
- 50% of patients felt that the follow up instructions are complex, and 75% believed that providing follow up instruction in written format would be useful.

Conclusions: Both physicians and patients agreed that follow-up instructions are complex and providing instruction sheet would improve communication and coordination of care. We recommend education of both residents and nurses and start implementation of the patient instruction summaries in the internal medicine clinic.

Title: Survey of long term patients before and after the launch of Special Care Team

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Department of General Internal Medicine, Hamad General Hospital, Doha, Qatar

Background: There are over 40 long term patients, who do not have any active medical issues, under care of medical teams. Under medical teams (comprising of consultants, fellows and residents) they are meant to be seen at least once a month by consultant and once a week by resident. Special Care Team (SCT), a new consultant led service was launched in February 2018 and took over 20 patients to optimize the care of long term patients.

Aim: To evaluate if it has improved consultant involvement and communication, we conducted surveys before and after the launch of SCT.

Materials and Methods: Since all the long term patients are chronically ill and unable to communicate, we created an anonymized questionnaire for their families / carers. 25 questionnaires were distributed in January 2018 to the long term patients under care of medical teams. 20 questionnaires were sent again in June 2018 to patients under SCT.

Results:

Following were the responses of carers / families post SCT (as compared to pre-SCT)

- 16 responses were received in post-SCT survey (pre-SCT: 21)
- 100 % knew the name of consultant (pre-SCT: 62 %)
- 95 % times patients were seen at least once a week by consultant (Pre-SCT: 38 % once a week; 19% once in two weeks; 19% once a month; 24% less than a month)
- 50% times seen by resident daily (pre-SCT: 50%)
- 94% times seen by resident at least once a week (pre-SCT: 76%)
- 94% times family meeting was in last 4 weeks (pre-SCT: 33%)
- 94% preferred to stay under single consultant for more than a month (pre-SCT: 67%)
- 94% felt consultant was easily accessible (pre-SCT: 67%)

Conclusions: Families / Carers of long term patients under SCT suggested more active consultant involvement and improved communication (like family meetings) as compared to patients under teams.

Title: Impact of Antimicrobial Stewardship Program in Antibiotic Consumption and Cost in Al Khor Hospital

Authors: M Alsamawi, Y Eldeeb, G Wilson, E Sirajuddin, H Elkoumi

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Background: Antimicrobial stewardship (AMS) is one of the key strategies to overcome microbial resistance. It involves the careful and responsible management of antimicrobial use. Antimicrobial stewardship program started at Al-Khor Hospital (AKH), in May 2015. It included the following activities:

- 1-Encourage formulation of local guidelines
- 2-Surveillance and Feedback
- 3-Formulary Restriction and Pre-authorization
- 4-Antimicrobial Selection and Dose Optimization
- 5-Education

Aim: To evaluate the experience of Antimicrobial Stewardship Program in AKH.

Methods:

Prospective, interventional, educational, before and after study between Jan 2015-and June 2018.
Endpoint:

antimicrobial consumption expressed in Daily Defined Dose (DDD), antimicrobial related costs and physicians acceptance rate.

Results: 150,000 prescriptions were reviewed between July 2015 and June 2018. Inappropriate prescriptions were stopped or de-escalated according to the culture result. Pre –authorization for restricted list 2 from antimicrobial policy is achieved in 95% of the total prescribing. The result for the intervention were as following:

- 1-Total antimicrobial DDD/100 patient-days consumption for restricted antibiotics was reduced from 396.86 to 99.7.
- 2-Cost reduced for 3 restricted antibiotics by 61%
- 3-acceptance rate to AMS interventions increased in different wards from 73% to 94 %

Conclusions: Antimicrobial stewardship in AKH has improved the antimicrobial use, reduced the cost without compromising patient outcomes.

Title: Appropriateness of utilization of isolation facilities in ED- A Quality improvement study.

Authors: V Vamanjore, J Trivedi, S Abu Salah, S Noorjahan, R Pradeep, A Hassan Sulyman, P Shibu, A Fuad, S Jaseem, T Binu, L Gretta

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Background: Optimal utilization of isolation facilities is of utmost important for the delivery of quality health care in hospitals particularly in the Emergency Department (ED). Improper usage of isolation facility will lead to situation where patients who are in actual need of isolation including those suspected to have pulmonary Tuberculosis, Varicella infection etc. must remain in open beds in ED until an isolation bed becomes available. This puts other patients, visitors and health care staffs at risk of contracting the disease.

Aims: To assess the appropriateness of use of isolation facility in the ED and to recommend changes for improving the usage.

Materials and methods: A retrospective study was conducted in ED of Hamad General Hospital from 01/01/2017 to 15/07/2017. Patients who were admitted to isolation rooms in ED were included. Demographics, Indication, type of isolation requested and appropriateness of referral were noted. Results-A total of 100 patients were included out of which 69 were males. Majority of the patients were in the age group of 21-50 years (67%). The most common indication for isolation was MERS Corona virus infection (44%) followed by TB (30%) and meningitis (11%). 57 % of request for isolation were appropriate for disease. Analysis of the investigations showed 12 % had influenza, 8% had Pulmonary TB and 3% had CI Diff where as 75% were negative. Only one patient was positive for MERS infection. Sub analysis of patients isolated for MERS showed that only in 45.8% patients MERS protocol was followed appropriately.

Conclusions:

- 1 To Increase awareness of appropriate isolation precaution for various conditions among staffs
- 2 Early and prompt communication with primary team on release of result.
- 3 Privileges to Infection control nurse to change inappropriate request.
- 4 Follow MERS protocol, all pneumonia doesn't need MERS screen and many can be discharged

Title: A clinical Audit assessing the inpatient glycemic control in medical patients known with diabetes mellitus

Author: A Khan, M Zahid, S Rose, A Shahzad, A Alshurafa, Z Shahid, K Obeidat, H Chaudhry, A Chapra, U Siddique, H Fatima

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Uncontrolled hyperglycemia in hospitalized patients with diabetes is associated with significant increase in morbidity and length of stay. Observational and randomized controlled studies indicate that improvement in glycemic control results in lower rates of hospital complications.

Aims: To assess the control of blood sugar levels as well as different types of insulin regimens initiated inpatient to control hyperglycemia in diabetic patients admitted on medical floor as per American Diabetic Association guidelines.

Methods: We collected the data of 100 diabetic patients admitted under general medicine teams and assessed their average blood sugar levels as well as various insulin regimens used inpatient to control hyperglycemia during their hospital stay.

Results: 52% of the patients had average blood glucose levels above 10 mmol/l with 34% of the patients having average blood glucose levels above 12 mmol/l. There was a high degree of variation in different types of insulin regimens used with 33% of the patients started on basal bolus plus correctional scale insulin, 21% on sliding scale only and 22% on glargine plus sliding scale. Regimen consisting of fixed dose aspart plus basal glargine was used in 8% of patients, glargine alone in 2% patients and fixed dose aspart in 1% patients. 13% patients were not started on any antidiabetic medications in hospital. None of the patients were kept on either premixed insulin or oral hypoglycemic agents in hospital.

Conclusions: Adequate inpatient glycemic control has a significant impact on patient outcomes. Results of the data show that measures need to be taken to address this.

We recommend:

1. Introduction of a standardized inpatient antidiabetic regimen. This will result in better inpatient glycemic control.
2. Starting Insulin according to weight, diabetic control and renal functions.
3. Educational sessions about goals and protocols of management of inpatient diabetes for healthcare professionals.

Title: Establishment of a comprehensive stroke program in Qatar results in significant and tangible improvement in patient care

Authors: N Akhtar, A Shuaib, P Bourke, A Own, S Thomas, A Kartha, A-Naser Elzouki

Department of Neuroscience, Hamad General Hospital, Doha, Qatar.

Background: Management of acute stroke and prevention of recurrences requires a coordinated approach. While stroke programs are well-developed in North America and Europe, they are relatively absent in many parts of the world.

Method/Results: We describe the establishment of a comprehensive, new stroke program at Hamad General Hospital, a tertiary academic health center in Qatar and discuss the improvement in care observed in the four years since its establishment. A new stroke ward was developed and a stroke team was created to manage acute stroke and TIA patients. We introduced new triaging protocols, multidisciplinary collaborations, locally relevant guidelines, advanced intervention strategies and improved stroke research activities. During 4 years there was a significant increase in the use of rt-PA and thrombectomy in appropriate patients presenting with acute stroke. There was a marked reduction in stroke-related medical complications resulting in a significant decrease in mortality and improvement in the length of stay of admitted patients.

Conclusions: Our experience shows that in hospitals with a large volume of acute stroke admissions, the development of a comprehensive stroke program can very quickly lead to a significant improvement of care.

Title: Audit for Ankylosing Spondylitis (AS) in Qatar

Authors: Y Yahia*, A Al-Allaf**

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**Department of Rheumatology, Hamad General Hospital, Doha, Qatar.

Background: Ankylosing spondylitis is one of the main Spondyloarthropathy group. It has a worldwide distribution. Its diagnosis, treatment are well standardized with clear international guidelines. However, the application for these guidelines varies from country to country and even from Center to Center. We Audited our AS service in Qatar as compared to the EULAR guideline.

Methods: Electronic medical records of patients who visited Hamad General Hospital rheumatology clinic for 12 months in 2017 were reviewed. We compared our AS patients' management versus the 2016 EULAR management guideline.

A total of 205 AS patients were included during 2017. Males were 70% with a male to female's ratio of 2.3:1. The mean current age was 41.5 years, and the mean age at diagnosis was 32 years.

Results: We found that our main problem was related to documentation:

The Age of diagnosis was documented in 42%. Duration of disease mentioned in 32%

Smoking history in 48%. The family history of the rheumatological disorder in 14%

BASDAI and ASDAS score-which are the scores to assess the disease activity- documented on average of 7-10% of the whole Rheumatology clinic visits.

As a part of TB, HBV, HCV screening before biological agents, we found that 56% of the patient only were screened for latent TB by doing either PPD test or Quantiferon test.

A percentage of 56% also was for HBV/HCV screening before biological agents.

Pneumococcal vaccine was given for 55% of the patients who use biological agents.

Annual influenza vaccine was offered to 30% of the patients.

Conclusions: As compared to EULAR 2016 guidelines, our practice was lacking for an objective assessment of the disease severity and activity is essential to achieve better results. We also need better documentation for all aspects related to our AS patients. A recommendation was put in place with names and times for compliance and to re-audit in a year time.

Title: Prevalence and management of hypokalaemia in peritoneal dialysis patients in Qatar

Authors: M Ezzat, M Elshirbeny, A Hamad, A Bushra, M Vergil, L Navalta, S Ismail, V Lonappan, F Alali

Department of Nephrology, Hamad General Hospital, Doha, Qatar.

Background: Hypokalaemia is common in peritoneal dialysis (PD) patients and is associated with increased cardiovascular and all-cause mortality. Potassium supplement poorly tolerated due to side effects.

Aims: Evaluate the prevalence of hypokalaemia in PD patients in Qatar and improve management.

Methods: We included all patients on maintenance PD in Qatar.

We targeted patients with refractory hypokalemia ($K < 3.5$ mmol/L) or dependent on K supplement for > 3 months. New hypokalemia management protocol was initiated. We added routine evaluation and treatment for hypomagnesemia (< 0.66 mmol/L). We also started oral spironolactone 25 mg /day for hypokalemic PD patients with residual kidney functions (urine output > 100 ml /day). Patients were followed for 3 months.

Results: 143 PD patients were included with mean age is 54 years. We found hypokalemia in 48 patients (36%). Overall 56% of patients improved on the new protocol. In hypokalemic patients, 14 had hypomagnesemia (29%). After correction of hypomagnesemia, 10 patients (72%) reached normokalemia and stopped potassium supplement and 4 (28%) patients continue to require potassium supplement. 13 hypokalemic patients (27%) started spironolactone with 11 patients (85%) improved and stopped potassium supplement and only 2 patients (15%) continue to require it. Potassium level significantly improved on spironolactone from mean of 3.2 ± 0.3 mmol/dl to 3.8 ± 0.3 mmol/dl (pValue < 0.05). One patient only developed mild gynaecomastia without discontinuation of spironolactone.

Conclusions: Hypokalemia is a prevalent problem in PD patients in Qatar. Our new protocol improved potassium in majority of patients. Hypomagnesemia was a common contributing factor and correcting it led to improvement in hypokalemia. Adding spironolactone was safe and effective in treating hypokalemia in PD patients with residual kidney functions. These results form a base to initiate a clinical trial to evaluate role of magnesium supplement and spironolactone in treating hypokalemia in PD patients.

Title: Use of oxygen Therapy in hospitalized patients at Hamad General Hospital, Is it time to change practice?

Authors: S Rose, S Sasi, U Sinha, Y AlMohtasib, O Hamid, M Zahid

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Oxygen therapy is frequently used in the management of acutely unwell patients. Although Oxygen is a drug but traditionally, it is the least prescribed medication and usually given on verbal orders leading to under or overuse. British Thoracic Society (BTS) guidelines (2017) states oxygen should be prescribed like any other medication.

Aims: To assess the prescription practice of Oxygen therapy at Hamad General Hospital, Qatar.

Method: The prescription practice of Oxygen therapy was audited between April' 2018 till August' 2018. The current practice of junior doctors was assessed against BTS guidelines.

Results: Notes of 72 patients, who were initiated on oxygen therapy were reviewed. The median age was 67years. 49% (35/72) were male. None of the patient had a valid prescription on Cerner. Oxygen was prescribed in 45.8% (33/72) patients via communication order. The duration, target range and indications of Oxygen therapy were documented in 25% (18/72), 45.8% (33/72) and 42% (30/72) patients respectively by communication order only. 53% (38/72) had the mode of oxygen delivery (e.g. mask, cannula) prescribed. Oxygen saturation was documented in 49% (35/72) patients. Oxygen saturation on room air before initiating Oxygen Therapy was not documented in 12% (9/72). The blood gases were checked in 35% (25/72) before and 53% (38/72) post therapy initiation. Oxygen Weaning off plan was documented in only 32% (23/72).

Conclusions: Poor compliance to Oxygen therapy prescription was noted, on Cerner computer system and documentation (rate, delivery mode and wean off plan) in the notes as against BTS guidelines.

Recommendations

- 1) Training of residents on safe Oxygen prescription as per BTS guidelines
- 2) Oxygen therapy should not be initiated if it is not properly prescribed.
- 3) Improvement in practice by studying changes using small scale PDSA cycle

Title: Do we screen our patient for Abdominal aortic aneurysm?

Authors: N Al-Baaz, F Al Nimri, Y Yahia

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar

Background: Abdominal aortic aneurysm (AAA) is the most common true arterial aneurysm. The estimated prevalence of abdominal aortic aneurysm (AAA) in developed countries is 5 to 10% in men aged 65 to 79 years old. A single study in Qatar showed a prevalence of 0.5%. Screening programs for abdominal aortic aneurysm (AAA) lack in developing countries.

As internists with a high flow of patients in our clinics, we performed this audit to evaluate AAA ultrasound screening in our clinic.

Method: Review of the electronic medical records of patients who visited internal medicine outpatient clinics at Hamad General Hospital between the period of October/2017 till January/2018. We filtered the patients to include only male patients 65 to 75 years old with the previous history of smoking.

Results: After applying the above criteria, the number of eligible patients was 28 out of the total 102 reviewed. We reviewed the file of each patient including documentation, Lab values and diagnostic results. The number of abdominal sonographies performed for the purpose of screening was zero. A substantial deficiency of smoking status documentation was encountered, as it was only documented in 29 patients only which is 28% of patients. This can serve as a secondary endpoint that needs to be addressed.

Conclusions: Stemming from previous results, we can assert that the practice of AAA screening is absent in our practice as well as facing a significant problem in the smoking status documentation. We are planning to continue the project by increasing the awareness of the screening and creating an easy pathway for ultrasound screening. Further cooperation with another department such as vascular surgery would prove advantageous.

Title: Evaluation of anticoagulation control and outcome of treatment with warfarin amongst patients attending a multidisciplinary anticoagulation clinic in a tertiary hospital in Qatar

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Background and aims: A multidisciplinary anticoagulation clinic in Hamad General Hospital (HGH), Hamad Medical Corporation was a new collaborative initiative between Medicine Department and Pharmacy Department, which incorporated the clinical expertise of clinical pharmacists in the provision of anticoagulation management in order to deliver a standardized, safe and effective anticoagulation care. The aim of this audit was to evaluate quality of anticoagulation control and outcome of treatment with warfarin in patients attending anticoagulation clinic in HGH.

Materials and Methods: Quality of anticoagulation was evaluated by mean time in therapeutic range (TTR) according to the Rosendaal Method, percentage of extreme out of range International Normalized Ratio (INR) and incidence of thrombotic and bleeding events. Patients whose target INR was 2.0-3.0 and received warfarin for a minimum of 6 months without interruption were included and followed over one year (July 2016-July 2017).

Results: 186 patients treated with warfarin were evaluated. Mean TTR (+/- SD) was 78 (\pm 18.2). Percentages of extreme sub-therapeutic INR (<1.5%) and supra-therapeutic INR (>4.5%) were 8.4% and 4.6% respectively. Bleeding events were reported in 19 patients (10%) and all were minor (e.g., gum bleed, nasal bleed). No thrombotic events were reported.

Conclusions: Our data revealed good anticoagulation control and outcome among patients treated with warfarin and attending the new service, reflected by TTR exceeding international standard of 65% and low rates of extreme out-of-range INR and anticoagulant related complications.

Title: A Nutritional Audit at Geriatrics & Long-term Care Facility

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Background: Malnutrition is associated with increased mortality and morbidity as well as functional decline. Nutritional assessment and management by the dietitians are crucial in preventing malnutrition and improving quality of life in long-term care residents. Evaluation ranges from methods such as BMI to validated tools (such as Geriatric Nutritional Index). Management requires multidisciplinary approach which may involve dietary improvements, maintaining hydration, managing multiple co-morbidities, avoiding polypharmacy, using supplements or artificial (tube) feeding appropriately. Dietitians develop, review, monitor & revise the nutritional care plan for each resident throughout the resident's admission to the long-term care facility.

Aim: To assess compliance with policy on nutritional evaluation and management of long-term care residents.

Materials and Methods: It is a retrospective Audit. All new admissions to long-term care facility (Enaya Specialized Care Center) were identified between Aug-2017 to Aug-2018. 25 cases were randomly selected and audited. Data was collected on documentation of assessment within five days (as per policy), BMI, hydration status, meal consumption, swallowing or chewing problems, bowel motions, review of medications, appropriate lab tests, vitamin/mineral supplements and if on artificial feeding then document type of feed, regimen and intolerance.

Results: Our audit confirmed all residents(n=25) were assessed within 5 days of admission and a personalized nutritional care plan had been developed. Average age was 49 years with equal gender distribution. All patients had weight recorded categorically with an average BMI of 22.75. About half of admissions were either due to traumatic brain injury post RTA or anoxic brain injury secondary cardiac arrest. Nutritional screening showed majority (70 %) were at low risk of malnutrition. 80% were artificially fed with up to two-thirds of them on a standard diet & bolus feeding.

Conclusions: Multimodal dietetic input along with multidisciplinary team with timely evaluation and appropriate management prevents malnutrition in the long-term care facilities.

Title: An audit on Influenza Vaccination Compliance at Geriatric/Long-term Care Facility

Authors: S Khan, W Akram, M Omer, S Umakanth, A Al Fehaidi, H Al Hamad

Department of Geriatrics and Long-Term Care, Rumailah Hospital, Doha, Qatar.

Background: Influenza can be introduced into a Geriatric/long-term care facility by newly admitted residents, health care workers and by visitors. Residents of long-term care facilities can experience severe and fatal illness during influenza outbreaks. Therefore, it is prudent to prevent transmission of influenza virus using a multi-faceted approach including Influenza vaccination, testing, infection control, anti-viral treatment and anti-viral chemoprophylaxis.

Aim: To assess compliance of influenza vaccination on long-term care residents.

Materials and Methods:

Vaccination is usually carried out in the month of September for all the residents of Long-term Care. Data on cases who have received vaccination is collected and monitored. Data is also collected on all new cases positive for Influenza virus throughout the year. Our audit is a retrospective audit, which has used data, collected over 2016-2017.

Results: There was 91% and 93% Influenza Immunization Compliance in 2016 and 2017 respectively. Common reasons for not achieving 100% target are either due to previous reaction, egg allergy or resident refusing to be immunized. In spite of this, interestingly, it was noted there were 18 confirmed cases of Influenza viruses in 2017. Maximum effect of the vaccine is at 14 days, subsequently there is a decline in effectiveness/antibodies by about 7% per month. This has led to development of 2 new types of vaccines for people aged 65 or above, i.e., “High Dose Vaccine” and “Adjuvant Flu Vaccine”. Studies have shown there are up to 24% fewer influenza infections with the use of these.

Conclusions: Although influenza vaccination is one of the methods of preventing transmission, it plays a very important role. We aim to use of newer type of vaccines such as High Dose Vaccine, which may further reduce the incidence rates.

Title: Dry Weight and Volume Management in Hemodialysis Patients

Authors: D Addellatif, D Abdulla Hamad, D Fadwa Al-Ali, D Ashraf Fawzy, M Farid Rezgui, M Maher Chebel

Department of Nephrology, Fahd Bin Jassim Kidney Center, Doha, Qatar.

Introduction: Volume and blood pressure can be difficult to control in hemodialysis (HD) patients. The aim of this project is to establish blood pressure and volume management with the following goals:

- To optimize volume control using ultrafiltration rate with up-to-date guidelines ($<13\text{ml/kg/hour}$)
- Central dry weight management by new nurse manager
- Optimize blood pressure control and reducing the number of antihypertensive medications if possible
- Decrease number of emergency room and number of extra dialysis sessions due to volume overload.

Methods: Through central management, we started monitoring patients in Fahd Bin Jassim kidney center. We assigned an HD nurse as a coordinator for volume status assessment and blood pressure management. He was trained by nephrologist to evaluate and manage volume status in HD patients. Patients were categorized to 3 categories regarding their risk of volume overload or hypotension on dialysis (high, intermediate and low Risk) with frequent evaluations for higher risk groups.

Outcomes: 227 patients followed for 2 months since starting the program. Although there were no significant changes in the mean rate of ultrafiltration, patients with higher ultrafiltration rate ($>13.5\text{ ml/kg/h}$) were reduced from 27 cases to 17 cases ($p < 0.05$). There was significant decrease in high-risk category patients from 28 (April 2018) to 3 patients (May 2018) ($p < 0.05$). There was significant increase in low risk patient from 98 (April 2018) to 148 patients (May 2018) ($p < 0.0001$). These improvements led to reduction admissions to emergency room for volume overload from 8 (April 2018) to 4 patients (May 2018) (50% reduction). Dry weight adjustments were done smoothly which led to improved satisfaction by patients, staff and physicians.

Conclusions: Our project shifted to central volume management in dialysis patients, which led to decrease volume overload cases, and less emergency referrals. We are expanding this model to all dialysis units in Qatar.

Title: Optimizing system level Internal Medicine discharge efficiency by novel discharge process implementation

Authors: M Thakur, A Kartha, E Swallmeh, I Habeeb,

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Patient flow plays key role in prompt access to healthcare. It enhances patient safety and satisfaction. By implementing Standardized Discharge Process we were able to reduce total discharge time by 25 %. The number of patients leaving the unit before 2 pm increased by 75 % in Internal Medicine and Acute Medical Assessment Unit which are the busiest units with high turnover in Hamad General Hospital.

Objectives: Reduce time from discharge decision to patient leaving unit by 25 % and Increase percentage of patients leaving medical units before 2pm by 50% by end of Dec 2017

Methods: Key drivers of this process are multidisciplinary team engagement in discharge process. Standardized discharge process flow was developed and tested. Dialogue between stakeholders across the system was encouraged. Our primary outcome measure is number of patients leaving medical unit by 2 pm. Our secondary outcome measure is total time taken from discharge decision till the patient left unit. Only those patients are included in this study for which all steps of process are followed.

Results: By implementing this intervention, we are able to reduce total discharge time by 25 % and number of patients leaving the unit before 2 pm increased by 75 %. The improvement is sustained over the last 12 months.

Conclusions and Implications: By standardizing the processes, we can have an immediate and sustained impact on advancing patient discharges, with no negative effect on patient outcomes.

Title: Audit of 'Referrals' from General Medicine patients to various specialties

Authors: J Sajid, M Errayes, S Suliman, K Bayoumy, G Abdelwahed

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background and Aim: At Hamad General Hospital the set expectation for consultation service is that all the referrals should be initially made by phone followed by Cerner order. Specialty team should see the patients promptly, and their consultant should be involved in care (either discussed or in person review) within 24 hours. If needed, specialty should follow the team regularly and be involved in the discharge planning.

Methods: We identified the referrals by contacting the senior resident of medical teams from August 2018 to September 2018 and audited 40 random patients. After initial identification, patients were followed for audit on Cerner for five days.

Results: Referrals were made to Neurology 15%, Gastroenterology and Infectious Disease 13%, Hematology and Nephrology 8%, Cardiology, Pulmonology, ID Transplant, MICU, Oncology and Psychiatry 5% and Geriatrics, Maxillofacial Surgery, Neurosurgery, Pain Management, Rehabilitation and Urology 3%. All 100% referrals were made by phone initially but only 25% had Cerner order. 88% were documented to be approved by primary consultant in advance. 97% of patients were accepted to be seen by specialties. 78% were seen within 24 hours, while consultants were involved in 43% (15% were seen as in person) as initial review. 13% of patients were not seen by the specialty consultant by 5th day. 33% of patients had daily follow-up, and 70% had involvement in discharge planning by specialty team.

Conclusions: We have identified some gaps in practice of referrals, both by referring primary internal medicine teams and referred specialties. Next step is to present the data to the residency program, GIM consultants and share the data with specialties to improve the awareness. We will do the re-audit in 6 months to see the improvement.

Title: An Audit on Occupational Therapy Services at Geriatrics & Long-term Care Facility

Authors: B Bright, L Thomas, A Al Fehaidi, M Al Obaidi, S Khan, H Al Hamad

Department of Geriatrics & Long-Term Care, Rumailah Hospital, Doha, Qatar.

Background: Occupational Therapy (OT) Services contribute significantly for the residents admitted in a Geriatrics & Long-Term care (LTC) facility, in terms of enabling resident's functional abilities to participate in the activities of everyday life through the use of self-care training, leisure activities and simple occupations. OT services range from selection of therapeutic activities to restore, maintain and enhance functions to the implementation of planned activities to arouse, stimulate and sustain interests and activity levels. Occupational Therapists practice with a holistic person-centred approach to provide care through assessment, enabling strategies and consultation.

Aim: To identify OT assessment process and interventions used for residents in a Geriatrics-&-LTC facility (Enaya Specialized Care Center).

Materials and Methods: It is a retrospective audit through Chart Review. Data was obtained for a period of 18 months between 2017-2018. Data was gathered on Occupational Therapist's compliance with practice guidelines and policies and Occupational Therapy Interventions.

Results: 2/3rd of the residents are seen twice weekly. About half the residents spend between 30-45mins in the OT sessions. Stroke, Dementia and Traumatic Brain Injury are the top three conditions requiring OT input in the Geriatrics-&-LTC facility. Audit confirmed 99-100% compliance by the OT in adhering to guidelines and policies (in respect to assessing within 5 days of admission, 6 monthly reassessments, establishing /reassessing goals, frequency of therapy and documenting discharge notes within 24 hours of discharge). Most common OT interventions were positioning and sensory stimulations. Other interventions include cognitive stimulation-training, Therapeutic activity, recreational activity, Activities of Daily Living, mobility & seating, integration of adaptive equipment, falls prevention, skin breakdown prevention, restraint reduction, resident & family education, consultation, home visits for environment modification etc.

Title: An Audit on Compliance with the use of Aspiration Bundle at the Geriatrics & Long-term Care Facility

Authors: I Badarudeen, N Naddukkandiyil, S Syamala, T Abou Salem, A Al Fehaidi, S Khan, H Al Hamad

Department of Geriatrics & Long-Term Care, Rumailah Hospital, Doha, Qatar.

Background: Aspiration pneumonia is the most common form of nosocomial pneumonia. Long-term care (LTC) patients have a threefold risk of aspiration compared to their community dwelling counterparts. Aspiration pneumonia is the second most common cause of infection, hospital transfer and mortality. Longitudinal studies show that aspiration pneumonia has a mortality rate of 19% at 14 days and 59% mortality at 1 year. LTC facilities of HMC provide care to patients who are at high risk of aspiration, due to factors like impaired consciousness, neurologic dysphagia and mechanical factors such as tracheostomy tubes.

To reduce the incidence and to provide appropriate evidence-based management of aspiration pneumonia, Aspiration pneumonia prevention and management bundle was implemented in the long-term facilities of the HMC.

Objectives: To assess the compliance with the use of aspiration bundle in Geriatrics & long-term care facility

Methods: Data was collected over 6-month period on following aspiration prevention and management domains:

- Initial swallow-screening
- Bed-side Aspiration alert placement
- Positioning during feeding
- The residents should be at 35-45 degrees whilst being fed and sustained for 1 hour after feeding
- Oral Hygiene assessment done on admission and quarterly
- Chest X-ray confirmation of Aspiration Pneumonia
- Implementation of Tracheostomy care bundles
- Confirmation of NG tube placement

Results: We observed excellent compliance to both prevention and management protocol for both oral and tube fed patients. In last quarter of 2017, compliance to prevention protocol for oral fed patients was between 80-100, which subsequently improved to 100% consistently. For tube fed patients, compliance to guideline was consistently 100%.

Conclusions: Due to a dedicated workforce and ongoing education and awareness sessions, excellent compliance to aspiration bundle elements is achieved. Incidence of aspiration pneumonia in our LTC is 0.28 per 1000 patient days which is better than reported median of 1 per 1000 patient days internationally.

Title: An audit on compliance with elements of “Sepsis Six” bundle in Geriatric & Long-term Care Facilities

Authors: S Khan, N Kunnunmal, M Refaee, S Syamala, A Al Fehaidi, H Al Hamad

Department of Geriatric & Long-term Care, Rumailah Hospital, Doha, Qatar.

Background: Sepsis is one of the leading causes of death across the world. Older people are five times more likely to have sepsis. Furthermore, long-term care residents are seven times more likely to have sepsis compared to community residents. The signs of both infection and organ dysfunction may be subtle and difficult to recognize in older adults with multiple comorbidities. Hence early diagnosis is challenging in Geriatric-&-Long-Term Care (LTC) settings.

Aim: To assess compliance with elements of “Sepsis Six” bundle in Geriatric-&-LTC Facilities
Materials and Methods:

Sepsis Program was established in October 2017 across the corporate and Sepsis six bundle compliance is used as a key performance indicator. Our audit is a retrospective audit, which has used the data, collected from May 2017 to Dec 2017. Data had been collected on the “six” elements of “Sepsis” bundle. These include administration of antibiotics within 60 mins, administration of IV fluids within 60 mins (appropriately), collection of blood cultures within 60 mins, collection of lactate, starting oxygen therapy (appropriately), and monitoring urine output.

Results: Compliance was variable amongst the six elements and every month. Compliance was noted to be up-to 71% with administration of antibiotics within 60 mins, up-to 75% with IV fluids within 60 mins, up-to 93% with collection of blood cultures, and up-to 100% with collection of lactate, oxygen therapy & urine output monitoring. Due to fluctuations in the compliance, numerous educational and training programs have been held. There has been a facility Sepsis Committee formed to evaluate, monitor, educate and provide guidance on ways to accomplish the target on use of sepsis bundle across the facility.

Conclusions: Attaining the target on sepsis bundle compliance can be challenging in the long-term care with atypical presentations but with a dedicated team enthusiastically working towards continued improvement this will be easily achievable.

Title: Special Care Team (SCT)-Improving Tracheostomy Care in Long Term Patients at a Tertiary Care Academic Hospital

Authors: H Siddiqui, A Kelly, N Abdelsami, Y Pagtulunan, S Augustine, S Karunan, E Swallmeh

Hamad Medical Corporation, Doha, Qatar.

Background: There is increasing number of long term tracheostomy patients, both ventilated and non- ventilated, in the medical wards of Hamad General Hospital. Therefore there is need for nurses to have special skills and knowledge for managing tracheostomy patients. A formal Tracheostomy Care Program could improve the quality of tracheostomy care and patient safety.

Aim: To create a Tracheostomy Care Program in collaboration with Special Care Team (SCT) to improve the quality of tracheostomy care for the long term patients in medical wards at HGH and support nurses in achieving required skills and competence.

Materials and Method

Tracheostomy Care Program team comprises of a specialist nurse, tracheostomy link nurses and SCT consultant. Tracheostomy link nurses are identified in each nursing unit. A 'Tracheostomy Patient Log' is created specifying the location and detailed tracheostomy details on each patient with a tracheostomy. In collaboration with tracheostomy link nurses 'Emergency Tracheostomy Bedside Kits' are customized and 'Tracheostomy Bedside Checklist' is placed for all long term tracheostomy patients.

Results: Before the implementation of Tracheostomy Care Program, The Emergency Bedside Equipment checklist from CG10063 was audited which showed 0% patients had tracheostomy bedside safety checklist, 0% had emergency bedside kits and only 37% of patients had spare tracheostomy tubes.

Since the implementation of Tracheostomy Care Program in March 2018, 100% have tracheostomy bedside safety list and emergency bedside kits and all 100% have spare tracheostomy tubes. It is also a useful tool for planning tracheostomy tube changes.

Conclusions: Since the inception of Tracheostomy Care Program with SCT for management of long term patients in medical wards the quality of care and safety of tracheostomy patients has improved significantly. Ongoing education and simulation sessions for nurses has resulted in evidence based practice being delivered.

Title: Improving VTE (venous thromboembolism) risk assessment compliance of inpatients at Hamad General Hospital – Acute Medical Assessment Unit (HGH-AMAU)

Authors: H Siddiqui, A Kartha, A-Naser Elzouki, A Mostafa, S Henidy, E Swallmeh, L B Ghouili, A M Kelly, J Sajid

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar

Background and Aims: Timely prescription and administration of appropriate thromboprophylaxis to hospital inpatients prevent development of VTE (venous thromboembolism), thus reduce patient harm, including death. Patients admitted to hospital should have documented VTE risk assessment completed within 24 hours of admission with a need based appropriate VTE thromboprophylaxis prescribed and administered (guideline CG10062).

The baseline collection data for Hamad General Hospital – Acute Medical Assessment Unit (HGH-AMAU) showed only 2% of VTE assessment documentation.

Materials and Methods: Out of several clinical quality improvement processes, methods and materials the HGH - AMAU - VTE risk assessment compliance improvement project was selective and extensively based on IHI (Institute of Healthcare Improvement) – Improvement methodology. Some of the important interventions were, senior leaders (senior consultants) and key stakeholders (resident doctors and nursing staff) engagement, PDSA (Plan, DO, Study, Act) testing change ideas, initially focusing on micro level and then shifting and spreading, continuous education and awareness, adopting best available CERNER – VTE advisor (VTE risk assessment tool), policy aligned appropriate documentation, team work, continuous motivation and celebration on each small step successes towards achieving the overall set aim.

Results: Data from August 2018 showed improvement in compliance for VTE risk assessment, documentation and initiation of appropriate VTE thromboprophylaxis for all AMAU admissions from 2 percent in April 2018 to 100 percent.

Conclusions: Our quality measures have significantly improved VTE risk assessment documentation and prescription of appropriate thromboprophylaxis in HGH-AMAU. We aim to spread our VTE prevention project to all medical units and further scaling it up to all in-patient areas of Hamad General Hospital. The continuous VTE (CERNER-Advisor) education and awareness with the daily morning senior medicine consultant's morning huddle for reviewing the AMAU patients VTE compliance has become the standard process which will lead to sustainability in this clinical improvement area.

Title: Comprehensive care for diabetic patients at Medical Outpatient Clinic, "Are we doing enough?"

Authors: H Siddiqui, N Bakhshi, A Alsaud, A Hussein, F Farooqui

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: There is decreased compliance to the 10 components of diabetic care bundle based on the international guidelines during adult patient follow up visit at HGH medicine outpatient clinic. Initial survey showed compliance for ordering HgbA1C was 28%, ordering urine albumin 33%, dietary referral 22% and diabetic educator referral was 28%.

Aim: To increase the percentage of compliance for ordering Hgb A1c, urine albumin, dietary referral and diabetic education referral as part of diabetic care bundle to a minimum of 50% by the end of December 2017.

Method: We initially did a pre-survey to identify the areas for intervention. Contributing factors for physicians included increased workload, lack of knowledge, lack of communication. Interventions included increasing physician knowledge about diabetic care bundle by direct education. Reducing Physician workload by making shared folder in Cerner containing required referrals and tests to minimize the ordering time. Placing diabetes bundle awareness posters in examination rooms as visual cues for physicians. Educating and training clinic staff regarding diabetic care bundle and assigning them to remind physicians to follow the diabetic care bundle for all diabetic patients seen in outpatient clinics.

Outcomes: Hgb A1c test compliance improved from 28% to 57%. Dietary referral increased from 22% to 57%. Urine albumin test compliance increased from 33% to 86%. Diabetic educator referral improved from 28% to 57%.

Conclusions: After implementation of action plans, the compliance rate for ordering required lab test and referrals based on diabetic care bundle increased to above 50% as outlined in our aim. The appropriate areas have been targeted and will improve with ongoing education and active involvement of physicians and clinic staff.

Title: Special Care Team-Contracture Prevention Program for Long Term Patients at Tertiary Care Hospital

Author: H Siddiqui, A Kelly, J Sajid

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: There are more than 40 long term patients in acute medical wards at Hamad General Hospital; all of them are bedbound. Total bed days range from 78 to 1848 days. There was no formal 'Contracture Prevention Program' before March 2018.

Aim: To provide training to nursing staff and care givers for delivery of passive range of motion exercises to prevent new contractures and improve existing contractures for the long term patients under Special Care Team (SCT).

Methods: In March 2018, SCT launched Contracture Prevention Program and introduced the concept of care givers involvement in patients' physiotherapy and TROM clock as visual reminder for regular range of motion (ROM) exercises. Care givers and nursing staff received training on how to accurately deliver passive ROM exercises. All hand restraints are discontinued, and ROM exercises are done every 4 hours during day time delivered by private care givers and nursing staff.

Results: Since its inception, SCT has cared for total 35 long term patients. Previously 68% were receiving passive ROM for 20 minute two times a week by physiotherapy team. 45% had contractures and limb stiffness at time of transfer to SCT. 5% had bilateral hand restraints. After the launch of SCT led Contracture Prevention Program with ROM exercises by caregivers and nursing staff, 56% of patients with contractures showed improvement with passive ROM exercises every 4 hours. 0% developed new contractures and 0% had bilateral hand restraints.

Conclusions: Training and involvement of private care givers and nursing staff in performing ROM exercise every 4 hours for bedbound long term patients prove more effective than 20 minute passive ROM exercises 2-3 times a week delivered by physiotherapy team. Long term patients under care of SCT have seen improvement in limb contractures with SCT Contracture Prevention Program.

Title: MRI Head in Acute Medical Unit at HGH Audit

Authors: M Naeem, D Alsoub, P Iqbal, A Suliman, R Saeid

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background & Aim: We performed the study to look at the MRI Heads performed for the inpatients in AMU, HGH. The objectives of the study were to look at the main indications for MRI Heads, and if it resulted in a change in the acute management and the length of stay.

This is the retrospective audit of 84 patients admitted in November and December 2017. Data was collected from the electronic medical records.

Results: Our results showed that main chief complaints for which MRI Head is performed included the weakness (32%), dizziness (25%), Numbness (21%) and the slurred speech (12%). Less common symptoms (around 2%) included headache, confusion, blurred vision and seizure disorders. Around 90 percent of these patients had CT Head initially and around 60 % of these were unremarkable.

78/84 MRI heads were performed to confirm or rule out stroke. 39 MRIs were unremarkable, 24 showed acute ischemic changes, 5 patients showed the mass lesion, 1 patient showed the haemorrhagic changes.

The diagnosis was unchanged after MRI in 60/84 and in 15 cases the MRI confirmed the ischemic changes and acute ischemic stroke.

MRI Head caused a delay in discharge in 46/84.

Conclusions: Based on this study, we concluded that suspected stroke and TIA is the main indication for MRI Head requests in AMU patients. For most of these cases, it does not change the acute management. There is increase in the length of stay due to inpatient MRIs.

Recommendation: We recommend that the clinical assessment should include the HINTS test in acute vertigo to rationalise the use of MRI head scans. Outpatient service and ambulatory care service should be considered.

Recently the stroke team has already started a model of rapid assessment and evaluation for minor stroke and TIA patients. Similar kind of service models can be considered for other symptoms as well.

Title: The Journey of Monitored Beds

Author: Z Anwer

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Introduction/Background:

Hamad General Hospital has ICU, MICU & monitored beds since long but general internal medicine department never has such facilities on the medical floor for its sick patients for constants monitoring of their vitals, heart rhythm & overall conditions. To meet up the world standard GIM lead started planning.

Objective/Aims:

The main objectives of monitored beds are

- To provide world standard quality of care to our selective medical patients as per international guidelines.
- Available 24 hours a day & seven days a week.
- Supervised by the senior most physician.

METHOD: The data of 32 adult patients who occupied monitored beds were collected randomly between the period of October 2017 to August 2018.

Result: Data analysis shows a maximum length of stay of 6 days and the minimum zero-day (few hours). The mean LOS was 2.97 days, the median was 3.00 and SD was 1.95. 9 (28.1%) patients were stayed for 2 days, 7 (21.9%) for 4 days, 5 (15.1%) for 1 day, 4 (12.5 %) for 5 days, 4 (12.5 %) for 3 days, 2 (6.3 %) for 6 days and 1 (3.1 %) for less than one day were monitored on beds. Out of 32 patients, 19 (59.4%) were referred from ED and the rest were from medical wards. Monitored beds have been occupied by patients with the variety of diseases/conditions like symptomatic bradycardia, tachycardia, hyponatremia, hypertension, unstable angina, AF & query new LBBB. 8 patients (25%) were monitored for acute hyperkalemia, acute pancreatitis, type 2 RF, acute stroke, left pleural effusion & bilateral hydronephrosis.

Conclusions: So far, the reasonable number of patients with the variety of medical diagnosis/condition has been benefitted from monitored beds. After the initial success, we're planning to extend the facility, widening its selection criteria & to have telemetry beds.

Title: Neuro and Vascular Imaging in Stroke and TIA patients at HGH-an audit based study

Authors: M Naeem, M Zahid, A Zafar, A Ajjawi, D Alsoub, N Neethu

Department of Internal Medicine, Hamad General Hospital, Doha, Qatar.

Background: Stroke and TIA at HGH commonly have multiple neuroimaging studies done, CT as a first line and MRI afterwards. We performed the audit to look at how beneficial was the MRI and types of vascular imaging performed in stroke and TIA patients.

Methods: It was a retrospective audit. 87 stroke/TIA patients were randomly selected. Data was collected from the medical records.

Results: Average age was 52.7 and HTN was the most common risk factor. 84 had CT Head and 30 CTs showed acute infarct, 27 were normal, 1 showed subacute infarct, 9 chronic changes and 8 acute haemorrhage.

73 had MRI Head performed and it showed acute infarct in 27, ruled out infarct in 3 (CT was false positive), haemorrhagic changes in infarct in 5, microangiopathy in 3 and old infarcts in 4 patients. There was 1 case each of moyamoya, deep ICH, and AVM.

14 patients had change in acute management after MRI, mainly in antiplatelets and in 1 case the commencement of anticoagulation.

51 had vascular imaging performed, 30 had MRA, 6 CTAs and 3 Carotid Dopplers.

9 patients had duplicate/triple vascular imaging without any indication.

Conclusions: On the basis of this study, we concluded that the MRI gave additional useful information in about 60% of cases. However, this changed the acute management in 14/87 patients and it was mainly change in antiplatelets.

There were duplicate/triple vascular imaging of the 9 cases which was not indicated and resulted in extra workload on radiology and financial loss for the hospital. This should be resolved through appropriate training.

Subsequently, the stroke team at HGH has started the rapid assessment model of care for minor stroke and TIA patients to expedite the imaging and discharge. The trainees have been educated to avoid the duplicate or multiple modalities of vascular imaging unless indicated otherwise.

Title: Perceived barriers of reporting incidents online in Internal Medicine Department, Hamad Medical Corporation (HMC), Qatar

Authors: M Mohamed¹, I Abubeker¹, M Thakur¹, A Jones¹, Abdul-Badi Abou-Samra^{1/2}, Abdel-Naser Elzouki^{1/2}

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Background/Aim: Incident reporting systems (IRS) facilitate reporting and tracking of incidents, help in identifying possible gaps in health care systems (HCS), studying and learning from incident reports can at improve the HCS and patient care overall, notably studies showed that incidents in HCS are under-reported. The aim of this study to assess physician's knowledge and experience with the online IRS and to identify perceived barriers of reporting incidents, with future plans of developing interventions that improve the utility and efficiency of IRS.

Methods: A 21-questions anonymous electronic online survey was sent to physicians (faculty and trainees) working in Internal Medicine Department in three main hospitals in HMC-Qatar. The desired number of respondents was determined a prior to be 100.

Results: 107 physicians (73% trainees and 27% attending faculty) answered to the survey. 62% of respondents are aware of the availability of IRS at HMC, and 32% respondents know how to submit an online incident report (IR). Only 22% have ever submitted an IR, and 17% have submitted an IR in the last year. 45% and 55% respondents are unlikely to submit an IR when they or their colleague, respectively, commit an error. The main barriers of reporting incidents online were, unawareness about the IRS (35%), inability to access it on the system (26%), perception of no resultant change in the system (15%), and concern of something happening to one's self or colleague (11%). When asked about solutions, 58% recommended training and awareness, and 21% recommended sharing learnings and actions from previous IR. 84% are willing to attend a training course and 58% prefer online course.

Conclusions: IRS is under-utilized by physicians in internal medicine department at HMC. The main barrier at the time of the survey is lack of training and awareness. Promoting awareness and sharing previous learning and actions may improve the utilization of the IRS.

Title: “Right Person, In the Right Setting, First Time”. Three Years Experience of Acute Medical Assessment Unit at Hamad General Hospital (HGH)

Authors: R Macaaly*, R A Yapendon*, D L Piol*, A Joseph*, S Sadavisan*, E Swallmeh*, S K Henidy*, A Al-Halabi*, M Atchan*, M Zahid**, A Kartha**, Z Yousaf**, A Khan**

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ACUTE MEDICAL ASSESSMENT UNIT (AMAU)

There is strong evidence that the establishment of Acute Medical Assessment Units (AMAU) have improved the process of acute care delivery in terms of length of stay, ED boarders, readmission and mortality.

AMAU are wards that are purposed, designed and staffed to look after acutely unwell medical patients up to a designated period (48 to 72 hours) prior to transfer to medical ward or home if appropriate.

AMAU Experience at HGH

STRUCTURE

- Located at 6th Floor of HGH
- 45 beds with 4 having cardiac monitoring facilities
- Has its own point of care testing i.e. Ultrasound & ABG Machine, Gluco & Ketometers, Handheld INR device & Urine analyzer
- 4 teams, each led by Medical Consultant
- 7 days a week consultant led rounds
- 24 hours Consultant presence
- 24 hours AMAU coordinator presence to facilitate the flow of patients
- Twice a day Multidisciplinary Board Rounds led by consultant
- Has its own “follow-up” ambulatory care area

PERFORMANCE (2016 & 2017 Data)

- Total Admissions - 7023 (9.6/day)
- Total Discharges – 6892 (9.57/day)
- Median length of stay - 3.8 days
- Discharged within 72 hours – 59%
- Discharged within 72 – 120 Hours – 23%
- Discharged directly to home - 94%
- Mortality rate was only 3/year over the period of 2 years.
- Readmission rate – 5 – 8%
- 2,428 referrals to Follow-Up area with 82% show-up rate
- 1.4% admission rate from AMAU Follow-up Patients

QUALITY OF NURSING CARE

- A nurse in-charge presence 24/7
- Nurse to patient ratio – 1:3
- 100% compliance with Pain assessment
- >90% hand-hygiene compliance
- 0% bedsore development rate

- < 2.5% patient fall rate/month

ACHIEVEMENTS

- Nominated as “BEST CARE ALWAYS” award in 2016
- Awarded “GLOBE OF EXCELLENCE AWARD” in 2017

DEVELOPMENT PLANS

- Further expansion of beds
- Direct admissions from ED and Primary Care
- Day Care Procedure Unit
- State of the art Teaching and Training unit

Title: Disseminating the mentoring culture across training programs at HMC and Medical Schools in Qatar: A one year story of success

Author: S Suliman*, M Allen**, C Bylund***, N Kumar**, A-Naser Elzouki**, W Ibrahim**, A Alkhal**, M Nomikos****, A Carr****, D Almohanandi****, A Almohamed**

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Background and aims: Mentoring plays an important role in influencing personal development, career guidance, career choice and success, and research productivity of mentees. Mentoring has been defined as a dyadic relationship in which the more experienced mentor helped guide the career of a younger organizational member as this protégé learned to “navigate the world of work”. Following ACGME-I implementation at HMC, an increasing number of training programs are creating the necessity to integrate mentoring into these programs.

Materials and methods: A needs analysis was conducted to evaluate the current practice of mentoring across training programs at HMC. The results of this study were published January 2018 at the journal of Advances in medical education and practices. The study showed that existing mentoring relationships have an evident confusion between supervision and mentoring roles. There was an urge to developing structured mentoring programs and training both faculty and trainees in mentoring to improve the current practice of mentoring. A faculty development initiative was organized by the medical education department at HMC with a goal to train faculty to develop knowledge and skills to conduct effective mentoring relationship.

Results: The first initiative was launched in September 2017 that targeted the program directors and associate program directors of fellowship and residency programs at HMC. This was followed by a series of workshops that trained faculty at Anesthesia, Internal medicine, Rheumatology, family medicine and Neurosurgery departments. This was further spread to involve Qatar University College of medicine faculty and students. A well-structured mentoring program was developed at these departments as a result of this training.

Conclusions: Faculty development is a corner stone in establishing a formal mentoring program at HMC and medical colleges in Qatar. A joint initiative is under organization with WCMQ leaders to develop a structured mentoring program for WCMQ students.

Title: Developing a Clinical Dashboard to Facilitate and Plan Patient Care Systems in Medicine Department at Hamad General Hospital, Qatar

Author: N Masoodi*, A Al-Mohammed*, R Akbar*, V Thota**, K Choda**, A Kaleecka**

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**Department of Health Information Management, Hamad Medical Corporation, Doha, Qatar

Objectives & aims: To design and develop a clinical dashboard to integrate operations and performance data streams to create a single data storehouse for Department of Medicine at HMC with all relevant data mapped to a standard data model and vocabulary.

Materials and methods: We developed a clinical dashboard using the SAP Business Objects – Power Insight Explorer software. We assembled a multidisciplinary team of clinicians and technical members to:

- determine major data needs
- design how the dashboard should look and behave (presentation layer)
- decide how the physical data is mapped to the dashboard (semantic layer) and
- how the data is pulled from the data sources (physical layer).

After developing these layers, we tested the model for data quality and validity by comparing dashboard data to the original source systems. We also tested system performance and response times. We launched the pilot dashboard for validation data quality before its general rollout.

Results: Using the software, we prototyped clinical dashboard using operations and needs of inpatient services of Department of Medicine at HGH. The content displayed on dashboard is derived from day to day operations and performance needs. The information generated is displayed using charts, graphs, and images to present information in a meaningful way. To further add context and meaning to the key metric values, dashboard displays the direction and degree of change as well as comparative metrics on a side-by-side basis.

Conclusions: HMC's department of Medicine clinical dashboard has the potential for improving clinical operations, patient safety and efficiency. This tool will contribute toward meeting the organizational goal of having easy access to meaningful information to make operational and clinical decisions. Clinical services at HMC can use this prototype dashboard to develop dashboards for their own clinical departments to standardize the care and facilitate day to day operations.

Section III

Abstracts/posters selected for*:

Case Reports (CR)

***(all Case Reports selected as Poster Presentations only)**

CR 1

Title: Unusual neuropsychiatric presentation of posterior cerebral artery ischemic stroke secondary to patent foramen ovale and small ASD

Authors: *S Saeed, **L Makalanda

*Department of Internal medicine/Ambulatory medicine, Hamad general hospital, Doha, Qatar &

**Royal London Hospital-UK

Introduction: We report a case of a patient presenting with neuropsychiatric symptom secondary to paradoxical embolism.

Background: We report a case of a 35 years old female who was admitted with sudden onset agitation, confusion and amnesia while having lunch in a restaurant. Bystanders in a restaurant noticed that she was acting abnormally like a panic attack. Patient complained that she can't see and has right hand is numb. She was brought to emergency department by Ambulance with unknown name and past medical history. On admission she was uncooperative and was moving all four limbs with no facial asymmetry. She would open eyes intermittently and was not speaking to us. Her blood pressure was 125/70, pulse regular 81bpm. ECG showed sinus rhythm. CT head was done which showed no acute infarct or intracranial haemorrhage. CT angiography showed a hyperdense focus within P2 segment of left posterior cerebral artery. Patient underwent urgent thrombectomy and intra-arterial thrombolysis. Following day post-thrombectomy the patient was alert, orientated, but unable to recall what happened and the only residual deficit was right homonymous hemianopia. Further evaluation with an aim to define etiology she had Urgent saline contrast transthoracic ECHO showed a PFO/ small secundum atrial septal defect. Patient was started on Aspirin 300mg for two weeks, and then to change to Clopidogrel 75mg. Post-thrombectomy CT head showed left thalamus and occipital lobe infarction.

Conclusions: This case highlights the significance of thorough hand over and collateral history from ambulance crew and bystander to help guide investigations and differential diagnosis in an atypical presentation of acute ischemic stroke secondary to posterior cerebral artery territory. The likelihood of disability-free recovery after acute ischaemic stroke is significantly improved by endovascular mechanical thrombectomy and intra-arterial thrombolysis.

Title: A Case Report of Bilateral Thalamic Infarction Secondary to Type II variant Of Artery of Percheron Occlusion

Authors: S Saeed, *P Gompertiz, **A Haddadi

*Department of Internal medicine/Ambulatory medicine, Hamad general hospital, Doha, Qatar &

**Royal London Hospital-UK.

Introduction: Perforating arteries originating from posterior communicating and posterior cerebral arteries are the main blood supplies for the thalamus. This case demonstrates a rare case of infarction within type II variant of thalamic blood supply as described previously by G. Percheron et al, J. Neurol. 1973 (artery of Percheron, AOP).

Background: A 79 years old lady was brought to emergency department as FAST +ve call presented with slurred speech, left facial drop, left sided weakness and expressive dysphasia. GCS score was fluctuating during patient's transfer to hospital and upon arrival from 14, 8, 13, to 7. The NIHSS score was 14. Following the review by the intensive care team, a decision of intubation and ventilation was made. CT Head showed established infarction in the right cerebellar area; CT Angiogram showed mixed plaque in aortic arch, right ICA <50%, left ICA >70 stenosis, P1 segment of right PCA thin and irregular; MRI with DWI image showed bilateral thalamic infarction.

Outcome: After discussion with family and explaining poor prognosis, a decision made to provide palliative care support only.

Discussion: Bilateral thalamic infarction typically characterized by a triad of altered mental status, vertical gaze palsy and memory impairment. AOP infarction represents 0.1% - 0.3% of all ischaemic strokes of which 22% - 35% of thalamic infarction are bilateral (Lazzaro NA et al, AJNR 2010). Thalamic nuclei serve important pathway of communication between cerebral cortex and midbrain.

Title: Severe hypertriglyceridemia-Induced Pancreatitis: Choice of Treatment

Authors: G Alfitori, G Karuppasamy, A Baiou, A Akkari

Department of Internal medicine, Hamad general hospital, Doha, Qatar

Case Report: Hypertriglyceridemia- induced acute pancreatitis appears to have a higher degree of severity and more complications as compared with acute pancreatitis from other causes.

There are no set established guidelines for the management of hypertriglyceridemia induced pancreatitis, but the role of insulin, heparin, and plasmapheresis has been studied and successfully used in its management. We report a case of 35-year-old female with acute pancreatitis secondary to hypertriglyceridemia who was successfully managed with IV insulin and heparin. She is a lady with history of Diabetes Mellitus and hypertriglyceridemia; presented with severe abdominal pain and vomiting. Abdominal examination revealed generalized tenderness. Laboratory findings revealed a total leukocytes of 13000 / cmm, glucose 12.2 mmol/L, urea 3.67 mmol/L, creatinine 63 mmol/L, sodium 121 mmol/L, potassium 3.2 mmol/L, , bicarbonate 16.5 mmol/L, amylase 966 U/L. The serum was lipemic and other investigations showed a total cholesterol 23.2 mmol/L, triglycerides 82.4 mmol/L and HDL 0.49 mmol/L. The patient was admitted to the hospital with the diagnosis of acute pancreatitis. Few hours after admission, patient developed shock, and was admitted to MICU. She was intubated and required vasopressors. A computed tomography scan of the abdomen showed features of acute complicated pancreatitis with necrotic foci, splenic vein thrombosis and peripancreatic fluid collection. Besides conventional treatment for acute pancreatitis with IV fluids and bowel rest, she was started on IV insulin infusion and IV heparin. She had marked improvement in her TG level, and on day two; the patient's triglycerides decreased to 29.1 mmol/L and then fell to 9.2 mmol/L. She was then extubated and subsequently improved and discharged.

Clinicians should consider IV insulin or pheresis in settings of hypertriglyceridemia- induced acute pancreatitis, as decreasing the TG early improves clinical outcome. Prevention of recurrent episodes should be done by lifestyle modification and optimizing the lipid-lowering therapy

CR 4

Abstract Title: Leprosy presenting as body swelling

Authors: C Isabirye, M Petkar, K Hussain, S Nasri

Department of Internal medicine, Hamad general hospital, Doha, Qatar

Case Report: A 42 years old Nepalese lady presented to ED with one week history of generalized body swelling. She had no history of allergy and her past medical history was unremarkable. She however had been having burning sensations in the upper and lower limb extremities and gritty sensations in both eyes. Prior to this presentation she had noticed a painless rash over the body and this was of no concern to her.

Clinically she was found to have normal observations. She had generalized edema with facial puffiness. She has a skin rash with infiltrations and few painful nodules. Her eye lashes were absent. Cardiovascular, respiratory, abdominal and nervous examination was normal.

A full blood count and biochemistry was normal. Urinalysis showed leucocyte + otherwise normal. An ECG and a chest x-ray were normal. A provisional diagnosis of multibacillary leprosy with type 2 reaction was made. She was started on 60mg of prednisolone reducing dose and referred to dermatology clinic for skin biopsy. Histology confirmed the diagnoses after a Wade fite (modified ZN) stain. She was started on dapson, riampicin and clofazimine with further follow up in the Infectious disease clinic.

Conclusions: This case demonstrates the presentation of leprosy with reaction. Reactions in leprosy are common and can lead to extensive tissue damage leading to increased mortality and morbidity. Such patients should be admitted to manage the reaction and any other complications that may follow.

Abstract Title: An Unexpected Cause for Weight Loss

Author: S Silver.

Department of Family Medicine, AL Udiid Air Base Hospital City, Al Rayyan, Qatar

Introduction: Celiac artery compression by the median arcuate ligament has been reported to be around 7% in autopsy reports, but the estimates of associated symptoms are unknown.

Case Report: A 42 y/o female presented with 4 weeks of left upper quadrant abdominal pain and weight loss. The pain was sharp and had no relationship to meals or activities. Conservative treatment failed and one month later she continued to have pain with a 10-pound weight loss. Review of the patient's history revealed she had a total thyroidectomy for thyroid cancer. Typically, patients with this history are treated to a hyperthyroid state, so her endocrinologist suggested making her euthyroid. This was a struggle for the patient who was confident her thyroid was not the problem. Additionally, a CT of her abdomen, upper and lower endoscopy, MRI of pancreas, pelvic US, thyroid US, and full body pet CT were all negative. Eight months after the patient's initial encounter, and now 25 lbs lighter, the diagnosis of Median Arcuate Ligament Syndrome (MALS) was found on literature review through joint physician-patient efforts. A vascular consult was obtained and the diagnosis of MALS was made via mesenteric angiogram. After a successful decompression of the celiac artery, she now tolerates food and is gaining weight.

Conclusions: This patient serves as a typical presentation of a rare disease, showing these anatomical abnormalities can indeed have dramatic clinical effects. The most common presentation of median arcuate ligament syndrome (MALS) is post prandial abdominal pain with unintended weight loss. Despite the typical presentation, this patient's history of thyroid cancer was a distraction during the workup, serving as a reminder to keep a broad differential. The importance of developing a partnership with patients in order to navigate the nuances of shared decision-making was a unique learning aspect of this patient case.

Title: Tuberculous adenitis with concurrent Hodgkin's lymphoma, a case report and literature review.

Authors: A Kamel, F Khan, M, Khalifa, B Muthanna, M Adam

Department of Internal medicine, Hamad general hospital, Doha, Qatar

Introduction: The concomitant occurrence of TB adenitis and Hodgkin's lymphoma is extremely rare, posing a diagnostic dilemma since both may have similar symptoms, so one diagnosis can be missed which may lead to fatal complications. This case highlights the need for suspicion in order to identify these two disorders in the same patient.

Case Report: A 15-year-old girl, previously healthy, presented with 3-month-history of progressive and painless right neck swelling, fever and weight loss. There was no contact with sick persons. Examination was only remarkable for a 5x5 cm hard non-tender and matted right supraclavicular lymphadenopathy. Her labs were only significant for an elevated LDH and mild microcytic anemia. Chest X-ray showed right para-tracheal mass. Contrast-enhanced CT of the neck showed amalgamated mass lesion in the supraclavicular regions bilaterally, (more on the right and in the superior mediastinum), while contrast-enhanced CT of the chest and abdomen showed multiple enlarged lymph nodes in the base of the neck, mediastinum and retroperitoneum region. PPD testing came positive (16mm after 24 hours).

Fine needle aspiration (FNA) from right supraclavicular lymph node revealed occasional large lymphoid-like cells, approximately 10 times larger than normal lymphocytes, and occasionally bi-lobed forms, suspicious for lymphoma. Sample of FNA also was sent for Acid-Fast Bacilli (AFB) smear, TB-polymerase chain reaction (PCR) and mycobacterial culture. An excisional biopsy was performed on the same lymph node and revealed large atypical cells including Reed-Sternberg cells and other Hodgkin cells, consistent with classic HL of lymphocytic predominant subtype. Alongside, the FNA samples previously sent for TB work-up showed positive results for PCR and AFB and later confirmed by cultures as *M. tuberculosis*.

The patient was diagnosed with Hodgkin's lymphoma and TB adenitis and was started on both anti-tubercular medications and chemotherapy. She showed clinical improvement after starting both therapies.

CR 7

Abstract Title: Cerebral schistosomiasis, Report of three cases from Qatar and Literature review

Authors: A Zaout, F Abid, H Alsoub, M Almeslamani, A Alkhal, I Albozom, K Murshid, G Al-Rumaihi

Department of Infectious Disease /Medicine, Hamad General Hospital, Doha, Qatar.

Case Report: We present three cases of neuroschistosomiasis, which are the first in Qatar to our knowledge. The three patients are young Filipino males, presented with seizure and mass like lesion in the brain imaging. Biopsy showed necrotizing granulomas containing *Schistosoma* eggs.

Schistosomiasis is the second most socioeconomically devastating parasitic disease worldwide, affecting over 240 million people in 77 countries with high mortality burden. Neuroschistosomiasis is caused by granuloma formation around eggs that lodge in the CNS, with *Schistosoma japonicum* usually causing most reported cerebral disease. These cases raise awareness of neuroschistosomiasis as a potential cause of tumor like lesion in patient from endemic area.

Title: Autosomal Dominant Polycystic Kidney Disease and Pericardial Effusion, a complex association

Author: G Perez Fernandez

Department OF Cardiology, Cuban Hospital, Dukhan, Qatar

Introduction: The autosomal dominant polycystic kidney disease (ADPKD) accounts for one out of 400–1000 live births, being a hereditary disorder with cystic and noncystic manifestations as well as extra renal involvement. The pericardial effusion (PE) in the context of a patient with ADPKD is complex, and it is not entirely defined. Several theories have been proposed. The most accepted, so far, is linked to mutations in the PKD1 gene which can entail an abnormal production of matrix components, matrix-degrading enzymes, and inhibitors of metalloproteinases, and defects in connective tissue which would lead to an abnormal distensibility of the connective tissue.

Case Report: We report the case of a 35-year-old female Moroccan patient with the diagnosis of ADPKD associated with arterial hypertension that came into the Emergency Department complaining lower abdominal pain lasting five days being diagnosed as salpingitis. Abdominal computed tomography scan with contrast was performed showing both kidneys with several cystic images with a thin wall. The transthoracic echocardiogram appreciated the presence of moderate PE more in the anterior aspect. A greater set of standard tests to rule out collagen vascular disease, rheumatoid diseases, autoimmune disorders, and malignancies was ordered. These tests yielded no abnormality. The association of ADPKD with PE is rare. Awareness of this co-existence, in the absence of hemodynamic compromise, should prevent excessive diagnostic tests by the physicians.

Title: Cryptogenic organizing pneumonia: A case of challenging clinical and histopathological diagnosis

Authors: M Uddin, A Alshurafa

Department of Internal Medicine, Hamad General Hospital Doha, Qatar

Introduction: The exact incidence and prevalence of cryptogenic organizing pneumonia are unknown. Six to seven cases per 100,000 hospital admissions was found at a major teaching hospital in Canada while in Iceland, the mean annual incidence was 1.1 per 100,000.

Case Report: A 58-year old female patient, with no past medical history, presented with Insidious onset of shortness of breath for one-month, worsened 5 days prior to admission. The SOB was progressive in course with no aggravating or relieving factor. It was associated with dry cough. There was no fever, skin rash, and anorexia or weight loss. She had URTI 6 weeks prior. She had multiple courses of antibiotics and required oxygen supplementation in home.

Her O2 sat was 77% on room air and was tachypneic, tachycardic and afebrile. Chest X ray and CT chest showed bilateral patchy consolidations/interstitial shadowing. Patient was intubated and admitted to MICU. Septic and autoimmune work up was sent and came back negative later. Broncho alveolar lavage was done and it was unremarkable. Lung biopsy showed interstitial cellular infiltrate as well as organizing pneumonia and organizing diffuse alveolar damage, suggestive of Cryptogenic Organizing Pneumonia. Patient was started on pulse steroids, which showed dramatic improvement in response to steroid, extubated and was discharged home on Oxygen.

Conclusions: The diagnosis of cryptogenic organizing pneumonia is established by combining clinical, radiological and histological criteria. Similarities with other disease processes can lead to a delayed diagnosis. Most patients respond well to corticosteroid therapy.

Title: Cardiac tamponade combined with pleural and peritoneal effusions, as the presenting manifestation of primary hypothyroidism

Authors: G Karuppasamy, M Zahid.

Department of Internal Medicine, Hamad General Hospital Doha, Qatar

Case report: We report a rare case of primary hypothyroidism presenting with cardiac tamponade and multiple body cavity effusions. A 38 year old woman presented with shortness of breath and fatigue for 2 months. She also had history of loss of appetite and menstrual irregularities. Her chest x-ray showed cardiomegaly and transthoracic echocardiogram showed evidence of cardiac tamponade. Urgent pericardiocentesis was performed and pericardial drain was placed, with drainage of 1400ml of serous fluid. On analysis the pericardial fluid was exudative with negative cultures and cytology. She was also found to have bilateral pleural effusions and ascites.

Laboratory tests revealed severe hypothyroidism, thyroid stimulating hormone level was >100 mIU/L and free T4 <0.5 pmol/L. She was also found to have hyperlipidemia and high creatinine kinase level. Other investigations including autoimmune workup, tuberculosis and malignancy were negative. After exclusion of other causes, the cardiac tamponade was attributed to overt primary hypothyroidism. Thyroxine replacement therapy was started. Her symptoms improved over the next two weeks.

Pericardial effusion is one of the well-known manifestations of hypothyroidism however cardiac tamponade is rare due to slow accumulation of fluid and marked distensibility of the pericardium. The case demonstrates that hypothyroidism should be considered in all patients with an unexplained pericardial effusion. The symptoms and signs of hypothyroidism may be subtle, leading to delay in diagnosis. Also, it is important to remember that patients with hypothyroidism may not present with the classic signs of cardiac tamponade, as seen in this case. For patients diagnosed with cardiac tamponade without sinus tachycardia, hypothyroidism should be highly suspected. Our patient is unique in having a combination of ascites, pleural effusion and pericardial effusion. Early diagnosis and prompt thyroxine replacement therapy leads to clinical improvement.

Title: Atypical Hemolytic uremic syndrome (HUS)

Authors: A Khanji, K Khedari

Department of Internal Medicine, Hamad General Hospital Doha, Qatar

Introduction: HUS is defined by the simultaneous occurrence of microangiopathic hemolytic anemia, thrombocytopenia, and acute kidney injury. The atypical HUS is distinguished from typical from its association with low level of C3 and in some cases with gene mutation. Thrombotic thrombocytopenic purpura is distinguished from HUS by abnormally low ADAMTS13 activity.

Case Report: We are reporting a case report of 73 years old male with Hypertension, Dyslipidemia, and ESRD with renal transplant from live unrelated donor who was on triple immunosuppression including tacrolimus, mycophenolate mofetil, and prednisolone with stable graft function. he has had a history of oropharyngeal candidiasis. He was admitted for generalized fatigue for 1 week, with altered mental status and acute kidney injury. On physical exam he was Conscious, oriented with pale skin. Rest of physical exam was unremarkable. His Hb was 9.9, MCV 82.4, Platelets 58000, urea 21.6, creatinine 174, LDH 674, ALT, AST (N) bilirubin 21, low haptoglobin of 4, and high beta 2 microglobulin of 3.38. The level of C3 was low of 32.7. His ADAMTS13 showed normal activity with no complement system anomalies test. Viral serology was negative.

Schistocytes were seen on peripheral blood smear. He was treated for uncontrolled HTN. I he was treated with daily plasmapheresis, methylprednisolone, and Tacrolimus. Eculizumab was added to the treatment later. After 4 weeks of treatment the creatinine started to improve along with, platelets. His Hb, platelets and kidney function were Normal after 3 months.

Conclusions: 50% of the patients with a HUS, who received only plasma Exchange, have a poor response to the treatment. HUS recurrence is very rare in all those patients who received the preventive treatment with Plasmapheresis in addition to Eculizumab before and after kidney transplant. These patients also maintained a good graft function.

CR 12

Title: Gabapentin-induced hemi chorea in a young female

Authors: M Abdul Qader, A Rahil, A Suliman

Department of Internal Medicine, Hamad General Hospital Doha, Qatar

Introduction: Chorea caused by gabapentin has been reported in the literature. Chorea is very distressing to patients and causes significant morbidity. We need to be aware that such symptom can be directly caused by drugs such as gabapentin. This would prevent over investigating such cases and expedite patient recovery.

Case Report: we report a case of a young female who developed hemichorea shortly after taking a small dose of gabapentin for shoulder pain and resolved within a few days after discontinuing the drug. We have also performed a comprehensive literature review of all cases of gabapentin-induced chorea.

Title: An unusual cause of jaundice in thyrotoxicosis

Authors: A Maliyakkal, A Elhadd, N Shaath, A Noaushad, A Mohammad, K Farfar

Department of Medicine, National Diabetes Centre, Al Wakra hospital, & Qatar Metabolic Institute
Doha, Qatar

Back ground: Carbimazole is the commonly used antithyroid drugs in thyrotoxicosis. It is generally well tolerated. Its side effects include allergic reactions, gastrointestinal upset and agranulocytosis. Hepatitis is a rare but serious side effect. Here we report a case of carbimazole induced hepatitis with severe cholestasis which was managed by switching to propylthiouracil.

Case report: A previously healthy 30 year old lady with no significant past medical history who was diagnosed with thyrotoxicosis one month earlier treated with carbimazole 60 mg daily admitted with yellowish discoloration of sclera, urine and pruritus of one week duration. Systemic examination was unremarkable except for icterus. Investigation showed hyperbilirubinemia (Total bilirubin 208 μ mol/L, conjugated 124 μ mol/L) and elevated liver enzymes (ALT 224U/L, AST 163U/L and ALP 347U/L). A probable diagnosis of carbimazole induced cholestatic hepatitis was made and the drug was discontinued. Other causes of hepatitis and cholestasis were excluded. Attempts to arrange radioiodine or treat the patient surgically were not successful. She was continued on propranolol, started on steroids and propylthiouracil one week later. Patient's LFTs started improving gradually. On follow up LFTs normalized at 4 weeks.

Discussion: Carbimazole and Methimazole have been associated with cholestatic jaundice without hepatic necrosis on biopsy, which may be fatal in severe cases. Most patients recover on drug discontinuation. Literature review shows that the mean time of onset after starting the treatment is 36 days. The mechanism of cholestasis is not fully understood, but it is thought to be an allergic reaction, and dose-independent.

Abstract Title: Bile cast nephropathy: A case report

Authors: M Jamshaid, M Ali, Z Yousaf

Department of Internal Medicine, Hamad General Hospital Doha, Qatar

Introduction: Bile cast nephropathy should be considered in the differential in addition to hepatorenal syndrome in patient with AKI in the presence of Chronic liver disease and acute fulminant liver failure. Bile cast nephropathy is an underdiagnosed entity with very few reported cases. There are no set guidelines for its management. While the exact cause is unknown, it is presumed to be secondary to multiple concurrent insults to the kidney including direct toxicity from bile acids, obstruction caused by bile casts, and systemic hypo perfusion from vasodilation. Therapies directed at reducing bilirubin like dialysis and plasmapheresis, have been associated with a recovery of renal function.

Case Report:

64-year-old diabetic and hypertensive gentleman, known to have ischemic cardiomyopathy with 28% ejection fraction, alpha thalassemia trait and stage 2 chronic kidney diseases presented with yellow sclera and dark urine. He was admitted as a case of obstructive jaundice secondary to cancer of head of pancreases. During his stay in hospital, he developed cholangitis with progressively worsening direct hyperbilirubinemia. He developed concurrent deterioration of his renal parameters and became anuric. Emergency Percutaneous biliary drain was inserted with initiation of hemodialysis with an aim to lower serum bilirubin. Patient was planned to undergo Plasma Exchange to reduce Bilirubin levels further in case he failed to improve with hemodialysis. His bilirubin trended down with improvement in liver functions. After three sessions of hemodialysis patient started to produce urine and his renal parameters started to improve gradually.

Conclusions: The concomitant worsening of renal function with hyperbilirubinemia and the concomitant improvement of both is highly suggestive of bile cast nephropathy. Potential contributing factors include ischemic ATN, sepsis or contrast nephropathy.

Title: Kikuchi–Fujimoto Disease: Report of 10 Cases from Department Of Internal Medicine, Hamad General Hospital

Authors: AR Mohamad, M Zahid, B Al-Ani, M Khalil, A Saeed, A Elzouki, A Khan

Background: Kikuchi-Fujimoto (KF) disease, a rare and self-limiting disorder of unknown aetiology is characterized by cervical lymphadenopathy (CLN) and fever. The pathophysiology remains unclear and may be triggered by infectious agent leading to self-limiting autoimmune process. There are no confirmatory laboratory tests and lymph node biopsy is required to differentiate KF disease from other serious conditions.

Material and Methods: In this retrospective study, we report 10 cases of KF disease diagnosed at Hamad General Hospital, Qatar, between 2004 to 2016. The diagnosis is based on clinical presentation, investigations and histopathological examination of LN.

Results: There were five females and five males with mean age of 29 years. There were three Qatari patients, four from Indian subcontinent and three from other nationalities. All patients had neck swelling (average duration 2.9 weeks) while nine had fever (average duration 3.1 weeks). 6 patients had weight loss and two complained of dry cough. All patients had palpable CLN (7 left anterior & 4 right anterior cervical area). Average ESR was 36 mm/hr. One patient had severe neutropenia which improved back to normal. ANA were negative in eight patients. One patient had weakly positive ANA while one had strongly positive ANA titers, which was subsequently diagnosed and managed as SLE. HIV and Tuberculosis screen were negative in all patients. Two patients had recurrent disease with one having recurrence during pregnancy, she was managed conservatively and delivered a healthy baby. All patients had lymph node biopsy findings consistent with the diagnosis of KF disease. All patients recovered completely.

Conclusions: The presentation of our patients matches well with other case series of KF disease with recurrence rate of 20% in our group. KF disease should be kept in mind for patients presenting with fever and cervical lymphadenopathy. Lymphoma, Tuberculosis and autoimmune diseases like SLE should be excluded in such patients.

Title: Escitalopram associated with significant QT interval prolongation in a young lady; a case report and literature review

Authors: K Elfert, B Minhas

Department Of Internal Medicine, Hamad General Hospital, Doha, Qatar

Introduction: Drugs most commonly responsible for prolongation of QT interval are antibiotics and antidepressants. Compared with tricyclic antidepressants, the use of selective serotonin reuptake inhibitors (SSRIs) was less likely associated with severe cardiac adverse effects. Escitalopram, one of SSRIs, has shown significant antidepressant activity and well tolerability.

Case Report: We report a case of a 29-year-old lady previously healthy presented with inability to speak and right-sided weakness. Neurological examination revealed aphasia, right upper motor neuron facial palsy, and right dense hemiplegia. MRI brain showed left basal ganglia, corona radiata, and left frontal acute infarcts. Echocardiography showed severe mitral stenosis due to rheumatic heart disease, and left atrium dilatation. The patient was admitted to the stroke unit with a diagnosis of cardioembolic ischemic stroke and started on aspirin and atorvastatin. Escitalopram 10 mg once daily was started at third day of admission to hospital. After receiving three doses of escitalopram, ECG showed a corrected QT interval (QTc) of 539 ms. QTc in a baseline ECG on admission was 426 ms. Escitalopram was stopped due to the significant prolongation of the QTc that returned to normal soon after discontinuation of escitalopram.

Discussion: Escitalopram has the potential to cause mild QTc prolongation in a dose-dependent manner. To date, there are few cases reported showing significant QTc prolongation by escitalopram. In one meta-analysis, the mean increase in QTc was found to be 3.5ms, and a clinically significant prolongation of QTc (QTc>500ms or increase of >60ms from baseline) was reported in one patient only. Our patient who was found to have an underlying cardiac disease and a normal baseline QTc had significant prolongation of QTc of 113ms from baseline. The most important risk-reducing intervention clinicians can make is undertaking a careful analysis of other QT-prolonging risk factors when prescribing psychiatric medication.

Title: Abdominal Lipomatosis

Authors: S Niraula, M Barman, M Askar

Department Of Internal Medicine, Hamad General Hospital, Doha, Qatar

Introduction: We report a case of 60 years old lady with history of intermittent constipation for the past three years who presented in ED with one episode of coffee ground vomiting. Diagnosis of abdominal lipomatosis was made based on CT evidence of excessive fatty tissue in abdominal cavity. Lipomatosis represents a distinct clinic pathological entity and is characterized by development of non-encapsulated lipomas in subcutaneous tissues. Lipomatosis of the face, head and neck, upper and lower extremities, trunk and abdominal cavity and pelvis have all been previously reported but massive involvement of gastrointestinal (GI) tract and abdominal cavity is extremely rare. Abdominal and intestinal lipomatosis can remain asymptomatic or present with abdominal distension due to partial or complete obstruction of the bowel, constipation, intussusception or upper GI bleed.

Case report: A 60 years old Qatari lady with history of intermittent constipation for the last 3 years presented with one episode of coffee ground vomiting. She had a background history of Diabetes, Hypertension and had remained bed bound for the past 10 years due to progressive dementia and history of ischemic brain infarct requiring remaining on mechanical ventilation and nasogastric tube feeding. Care givers reported abdominal distention and constipation on and off since 2016 which had been investigated earlier with CT abdomen and sigmoidoscopy. Family also gave history of her bilateral shoulder lipomas which were managed conservatively due to the patient's general condition apart from lipomas in her inner thigh which were surgically debrided due to infection few years ago. On physical examination the patient was hemodynamically stable, and the examination was unremarkable apart from abdominal distension with no organomegaly, tenderness or rigidity.

The patient's upper gastro intestinal bleed was managed conservatively. However, the abdominal distension and constipation remained the main concern after the bleeding resolved.

Title: Eosinophilic gastroenteritis associated with *Clostridium difficile* infection.

Author: A Al-Abdulmalek, M Elshafei, M Danjuma, A Khan, A Bishawi, I Al-Sheikh, A-Naser Elzouki

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Case Report: A 61-year old female patient who is known case of diabetes type-2 presented to the Emergency Department of HGH with two months history of profuse watery non-bloody, non-mucoid diarrhoea associated with abdominal pain, recurrent vomiting, and weight loss. On examination, she was clinically dehydrated but her vital signs were unremarkable. Systemic examination was remarkable for presence of distended abdomen with ascites demonstrable by positive shifting dullness. She had no lymphadenopathy or stigmata of chronic liver disease. Her routine haematological work-up showed a significant rise in serum eosinophils (0.8-3.7), with no other features implying underlying abnormality on haematology screen. Subsequently, she had diagnostic paracentesis, which was exudative with added eosinophilia on the aspirate (relative eosinophilia of about 86%). CT-scan abdomen demonstrated presence of ascites and thickening of lower oesophageal and terminal ileum walls. Upper and lower endoscopies showed normal gastric/duodenal mucosa and inflamed of terminal ileum. Histopathological evaluation of biopsies taken from these sites came back with no evidence of features suggestive of inflammatory bowel disease, lymphoma or malignancy. Stool analyses confirmed *clostridium difficile* toxin B, with no ova or parasites. Based on the strength of her presentation, consistent unexplained marked eosinophilia (both peripherally and on paracentesis), a multi-disciplinary team impression of eosinophilic gastroenteritis associated with *Clostridium difficile* infection and ascites was made. She was first treated for *Clostridium difficile* with a complete in-hospital course of oral vancomycin and was then counselled and commenced on prednisolone (40mg daily for 14 days), and a day course of Praziquantel (1800mg bid). The patient improved significantly with complete resolution of her symptoms and ascites, proven by repeated abdominal ultrasound, which showed complete resolution of the ascites.

To the best of our knowledge, we report a case of eosinophilic gastroenteritis associated with *Clostridium difficile* infection and performed an extensive literature search regarding this rare association.

Title: Survival following Out-of-Hospital Cardiac arrest in a patient with significant high Cardiac Arrest Hospital Prognosis score (CAHP score)

Authors: B Abuzuaiter, M El Hassan, S Abujalala

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Background: Out-of-hospital cardiac arrest (OHCA) is a crucial public health problem and the Survival after the arrest, remains disappointingly low. The CAHP score represents a simple tool for early stratification of patients admitted in Intensive Care Unit after OHCA. There is no available case report in the-literature of OHCA with Initial PH value of less than 6.8 and the patient survives with no neurological deficit.

Case Report: We report a case of 48-Year-old male patient who developed chest pain whilst at work. Upon arrival of the Emergency Medical Services (EMS) team, the Electro-Cardiogram showed ST-segment elevation of the Inferior leads. One minute later the patient developed Ventricular Fibrillation arrest. The patient received 200-Joules DC shock and Cardio Pulmonary Resuscitation (CPR) started by the EMS team.

The patient was shifted to the Heart Hospital with continuous uninterrupted compressions being delivered during the transportation period. Total duration of the CPR was 60-minutes till the patient regained Return of Spontaneous Circulation. Upon Arrival to the hospital, the patient was Intubated and on mechanical ventilation, hemodynamically unstable as he was hypotensive and bradycardic and the first arterial blood gas revealed PH value of 6,788. The calculated CAHP score is 200 which indicate 95% for probability of very poor outcome. The patient was shifted to the Cardiac Intensive Care Unit where he treated with aggressive Intravenous fluid resuscitation and Central Venous Catheter for cardiac pacing. Percutaneous Coronary Intervention was done to the occluded Right Coronary Artery.

The procedure was successful and uneventful. Despite the high CAHP score, the patient was successfully extubated. And he demonstrated intact mental and cognitive functions with no focal neurological deficit and he was discharged alive and went to the Rehabilitation Center to continue his recovery.

Title: A case Report on Ertapenem Associated Delirium in an Elderly Patient

Authors: M Refaee, H AL Hamad, S Khan

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Introduction: Carbapenems are an important class of broad-spectrum antibacterial for the treatment of serious bacterial infections. Ertapenem, a carbapenem, is advantageous in that it is long-acting and allows for a convenient, once-daily dosing.

Carbapenems have been implicated in causing neurotoxicity, particularly seizures. Most reports of seizures were associated with the use of imipenem-cilastatin, occurrence of seizures with other Carbapenems, including ertapenem, were individually reported to be <1 %.

Case report: Female patient 82 year old had past medical history for Hypertension and breast cancer post mastectomy, with Lung and Bone metastasis on hormonal therapy and propranolol. The patient also has chronic pain in her legs and back and pelvis treated with morphine.

Patient developed fever and was diagnosed as Urinary Tract infection. Culture of urine showed E. coli Sensitive to ertapenem. fever subsided patient clinically improved and got discharged with Mobile Doctor Services to continue her course of antibiotics, on 3rd dose of ertapenem patient developed delirium, disoriented to her surroundings. On 2nd admission Examination patient was disoriented to place and time, with mild agitation, patient's vital signs were stable. There was no urine retention and constipation also excluded. Patient metabolic and inflammatory profile did not show any suggestions of electrolytes disturbance nor infection. CT brain done that excluded any new brain insults. EEG done to exclude non-convulsive epilepsy. Ertapenem switched to piperacillin/tazobactam. Patient returned back to her baseline function and conscious level within 48 hours of discontinuation of ertapenem

Discussion: Patient had acute change in her cognition. After exclusion of all other causes of delirium, patient showed marked improvement within 48 hours after stopping offending medications

Conclusions: Delirium is common presentation of elderly in ED., Patient with multiple co morbidities with advanced age are more liable for drug side-effects. Drugs especially antibiotics should be suspected as a cause of delirium in elderly.

Title: Severe vitamin b12 deficiency leading to anemia and splenomegaly

Authors: *F Al Nimri, **M Al Sona, *H Abed

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Introduction: Vitamin B12 is a water-soluble vitamin that is necessary for the maturation of red blood cells. Severe deficiency can result not only in megaloblastic anemia but also severe hemolysis and splenomegaly. Here, we present the case of a 40-year-old vegan man who was found to have severe vitamin B12 deficiency as a cause of anemia and splenomegaly.

Case report: A 40-year-old vegan gentleman presented with easy fatigability, dyspnea on exertion, jaundice and gum bleeding for two weeks. Physical examination revealed a malnourished patient with a BMI of 18, pale and icteric. A grade 2/6 ejection systolic murmur was heard. Abdominal examination was significant for splenomegaly.

Laboratory investigations revealed macrocytic anemia with hemoglobin 5.5 g/dl, MCV 103 and thrombocytopenia. Intravascular hemolysis, iron deficiency, malignancy workup were normal. Peripheral smear showed severe macrocytic anemia. Hypersegmented neutrophils were seen. No blast cells detected. The only significant positive finding in his extensive workup was a very low B12 level. Testing for anti-intrinsic factor antibody and celiac disease were both negative. Abdominal ultrasonography revealed splenomegaly, measuring 14.5 cm in vertical diameter. Vitamin B12 Replacement was started and one month follow up showed a dramatic improvement in his hemoglobin level and platelet count.

Vitamin B12 deficiency is known to cause megaloblastic anemia and in severe cases bone marrow suppression, vitamin b12 is present in animal based food and a strict vegan diet is a risk factor, our patient clinical and biochemical improvement after cyanocobalamin treatment further supports the diagnosis, splenomegaly is an unusual finding in these settings and is rarely reported in literature.

Title: Acute psychosis as an initial presentation of adrenocortical carcinoma.

Authors: W Gul, N Suleiman, K Baagar, L Alhail

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Introduction: Adrenocortical carcinoma (ACC) is a rare malignancy. We report a case of metastatic ACC who presented with acute psychosis and severe acne.

Case report: 17 years old female presented with agitation and insomnia for a week. Two months prior to this, she visited dermatologist for severe acne and rapid onset hirsutism, however, no reason was identified and she didn't respond to symptomatic treatment. On examination, she had cushingoid face hypertension, abdominal stria and her Ferriman gallwey score 32/36. Workup revealed high dehydroepiandrosterone sulfate 56.4 $\mu\text{mol/L}$ (N 1.7-13.4), androstenedione 9.21 ng/ml (N 0.25-2.78), testosterone 3.6 nmol/L (N 0.69-2.78), morning cortisol 827 nmol/L (N 138-580) with no suppression (511 nmol/L) to 1mg dexamethasone, ACTH <5 pg/ml (N 5-60), serum cortisol day curve [12am: 519, 6am: 560, 12pm: 619, and 6pm: 606 (normal evening cortisol 55-386)], normal aldosterone/renin ratio and normal 24h urinary cortisol, metanephrine and normetanephrine. CT scan of abdomen showed 12cm hypervascular right adrenal mass with metastases to liver and lungs with the possibility of inferior vena cava infiltration. She was diagnosed with metastatic ACC with excess cortisol and androgens secretion. She received mitotane and metyrapone with no surgery because of her extensive disease. Genetic work up for hereditary syndromes as Li-Fraumeni syndrome, MEN type1 and others was negative.

Discussion: ACC is a highly aggressive neoplasm with a life expectancy of 2-2.5 years dropping to few months in presence of metastasis. Annual incidence is 1-2/ million population per year. Presentation varies as 50% are hormone-secreting tumors (30% cortisol, 20% androgens, 10% estrogens, and 2% aldosterone). It presents either with features of hormone excess as Cushing's syndrome and virilization in females or symptoms of mass effect with nonfunctioning masses. Most ACC are sporadic but some can present as a component of hereditary syndromes.

Conclusions: Acute psychosis is a very rare initial presentation of ACC and should be considered in the differential diagnosis of organic causes of psychosis.

Title: Neurocysticercosis: diagnostic challenge in patients from endemic areas

Authors: R Akbar, A Chapra

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Case Report: A 26-year-old Nepalese male patient previously only known to have 2 episodes of possible seizures in the past (not on any antiepileptics), presented to hospital with a witnessed generalized tonic-clonic seizure at workplace, causing some facial lacerations & left shoulder dislocation which was treated. The patient arrived in Qatar nine months ago. Review of other history was unremarkable (substance abuse, contact with sick patients or animals, raw meat ingestion etc). There was no focal neurological deficit.

An exhaustive laboratory panel of investigations was normal. A CT brain demonstrated an ill-defined hypodensity noted in the right frontal lobe with adjacent calcification. Subsequent MRI findings showed features suggestive of calcified granulomatous disorder/TB granuloma, versus neurocysticercosis. The Cerebrospinal fluid (CSF) analysis only showed a positive result for Cryptococcus antigen.

The patient was started on oral Phenytoin until work up was complete. Positive antigen result for Cryptococcus was disregarded in light of negative fungal cultures and India-ink staining. Subsequent work up for CNS Tuberculosis was negative and hence the patient was eventually started on a short course of Dexamethasone along with Albendazole and Praziquantel and discharged with a six-month follow-up for repeat imaging.

Conclusions: 1. Neurocysticercosis is the one of the main causes of acquired epilepsy in patients from an endemic area, requiring high degree of clinical suspicion.

2. Neurocysticercosis can be a diagnostic challenge considering definitive histopathological work up is not pragmatic, neuroimaging findings can often be non-specific and specific serological tests in serum and CSF are not widely available.

3. Cryptococcal antigen in CSF can be a false positive test, which can divert the focus for unnecessary work up. Hence clinical prudence takes priority for judicial decision-making.

Title: A case report on Paroxysmal autonomic instability with dystonia (PAID) syndrome following head injury

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Introduction: Autonomic dysregulation (dysautonomia), which is a risk factor for increased morbidity in patients with brain injury, can challenge patients' acute management and their rehabilitation phase. Early recognition and treatment can reduce long-term disability and may result in better clinical outcome.

Case Presentation: A 32 year old man was brought to hospital after falling from a height of three meters. Examination revealed GCS of 4/5, pupil non-reacting and wound on frontal area. CT head showed large right fronto-temporo-parietal subdural hematoma for which right fronto-temporo-parietal decompressive craniectomy was done and subdural hematoma was evacuated. Subsequently, once stable, he was transferred to long term care facility. Patient had an attack of sweating and tachycardia 21 days after trauma. Later he had paroxysms of profuse diaphoresis and tachycardia during which he became tachypnoeic and developed high grade fever. On average, patient had 1-2 paroxysms a day and continued for about a month. Investigations did not show an infective source of fever. A provisional diagnosis of PAID syndrome was made based on typical clinical symptoms observed in the patient. Symptoms were managed with antipyretics, propranolol and hydration.

Conclusions: 1. Paroxysmal autonomic instability with dystonia (PAID) is a complication of severe brain injury characterized by intermittent agitation, diaphoresis, hyperthermia, hypertension, tachycardia, tachypnea, and extensor posturing. Usually episodic, it first appears in the intensive care setting but may persist into the rehabilitation phase for weeks to months after injury in individuals who remain in a low-response state.

2. The pathophysiology of PAID can be best explained by dysfunction of autonomic centers in the diencephalon (thalamus or hypothalamus) or their connections to cortical, subcortical, and brainstem loci that mediate autonomic function.

3. The management of patients with PAID syndrome is usually symptom-based and they often need supportive care. Medical management includes benzodiazepines, clonidine, dantrolene and betablocker (propranolol).

Title: An unusual case of transient Cortisol Deficiency and profound hyponatremia in a pregnant female with pre-eclampsia

Authors: k Farooqui, H Abuzaid, J Mathew, F Farooqui, N Abobacker, K Shariff

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Introduction: Pre-eclampsia is a multisystem disorder that complicates 3-8% of pregnancies and accounting for 18% of maternal deaths. Pre-eclampsia is defined as hypertension and proteinuria in a pregnant lady with associated signs and symptoms such as pedal edema, headache, visual disturbances, and epigastric pain which starts at the onset of 20 weeks of pregnancy. Usually in pre-eclampsia we found no electrolyte disturbances except lower levels of magnesium in most of the cases. Pre-eclampsia with profound hyponatremia is one of the rare complications encountered during pregnancy and as per the literature we found only 14-16 cases have been reported. In such situation patient may predispose to convulsions, maternal mortality and fetal damage.

Case report: We report a rare case admitted with history of dizziness, headache and abdominal pain found to have profound hyponatremia in 3rd trimester of pregnancy with pre-eclampsia and contributing transient cortisol deficiency.

Normally pregnancy is a state of hypercortisolemia (glucocorticoid excess) particularly in the latter stages and testing of HPA axis (hypothalamic-pituitary-adrenal axis) using validated stimulation or confirmation test during pregnancy are lacking. Adrenal insufficiency in pregnancy is relatively rare with reported incidence of 1:3,000 births and it is associated with significant maternal and fetal morbidity if untreated during gestation or in the puerperium. Because of pregnancy induced metabolic and endocrine changes with related symptoms, it is difficult to diagnose the cortisol deficiency. Clinical features such as excessive dizziness, syncope, nausea, protracted vomiting, weight loss, profound hyponatremia, hypoglycemia and salt craving should raise the suspicion of adrenal insufficiency.

Title: Focal Meningitis - a diagnostic dilemma

Authors: Z Yousaf, R Eltahir, A Shams, M Faris, I Elhakim, M Jamshaid, M Abdul Qader

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Introduction: Meningitis is a life-threatening medical, neurologic, and sometimes neurosurgical emergency caused by an infection of the meninges leading to tissue inflammation. Timely detection and treatment is important avoid the devastating sequelae.

Case Report: We report a 70 years old diabetic gentleman, currently heavy smoker, presented with intermittent fever, headache & cough followed by drowsiness for 2 days, leading to a fall. He was hypotensive (80/50) upon presentation with a temperature of 38.5 C & GCS of 9/15. Meningeal signs were negative. Complete blood count showed predominantly neutrophilic (83%) Leukocytosis(17000/ul). CRP was 54.9mg/dL & lactate was 3.1mmol/L. CT head reported right frontal subgaleal hematoma with soft tissue swelling, frontal sinusitis & bilateral otomastoiditis. Lumbar puncture was delayed by 14 hours owing to technical difficulty & he was initiated on empirical treatment for bacterial & viral meningitis.

CSF showed normal protein (0.29gm/L), glucose 4.53mmol/L, cell count of 2Leukocytes and 13Erythrocytes. Gram stain, viral panel, fungal, cryptococcal antigen, TB PCR & CSF culture was negative. MRI head re demonstrated otomastoiditis. Right frontal acute sinusitis with bony defect & pyocoele was seen. Dural enhancement and thickening was demonstrated along the right frontal convexity suggestive of focal meningitis. Clindamycin was initiated & he underwent surgical sinus drainage. Pus was drained & biopsy was taken which grew Methicillin Sensitive Staph Aureus. Patient had a complete neurological recovery.

Conclusions: Focal Meningitis is a diagnostic dilemma with few reported cases. High level of suspicion is needed to diagnose it. The meningeal signs maybe absent with a completely unremarkable Lumbar puncture. MRI can help in the diagnosis, showing focal meningeal thickening and enhancement along the meninges. Brain or meningeal biopsy is needed for a definitive diagnosis. Reported cases of focal meningitis have been secondary to Tuberculosis or Influenza A. To our best knowledge, no known cases of focal meningitis secondary to MSSA infection exist to date.

Title: Dengue fever presenting with acute colitis; a case report

Authors: B Minhas, S Abdelgany, S Niraula

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Introduction: Gastrointestinal (GI) manifestations of dengue fever are mainly in the form of bleeding or liver function abnormalities. Dengue fever presenting as acute colitis is extremely rare. Here, we report a case of 71year old woman with dengue fever presenting with lower GI bleed and colonoscopic features of acute inflammatory colitis.

Case Description: 71year old woman with past medical history of hypertension, prediabetes and treated breast cancer presented to emergency department with high grade fever associated with chills rigors and myalgias for 4 days. She recently came back from Pakistan 5days ago before presentation. Systemic review was unremarkable. On examination she was febrile and pale with dry mucous membranes. Other systems were normal. Laboratory investigations showed platelet count of 161, Hb11.5, ALT/59, AST/114, serum virology, brucella, smear for malarial parasite and full septic workup was negative. Dengue IgM was equivocal and IgG was positive.

On third day of hospital admission patient passed large amount of dark stool with blood clots associated with epigastric pain and Hemoglobin dropped from 11.5 to 8.1, platelets dropped from 316 to 86. Patient remained stable hemodynamically. Urgent CT abdomen showed diffuse mucosal edema of colon from rectum to cecum. Colonoscopy showed multiple ulcerations with raised edges from rectum to cecum, Histopathological examination of ulcer showed nonspecific inflammation with normal crypts. CMV immunostaining, fungi (PAS) stain and malignancy was negative. Repeated dengue IgM and IgG serology was positive. Patient improved within 3 days of supportive therapy and was discharged. Follow up colonoscopy after 4 weeks showed near normal colonic mucosa.

Discussion: Manifestation of unusual symptoms doesn't exclude dengue virus infection. If clinically indicated and high suspicious, dengue serology should be repeated. In literature most cases on dengue fever described upper GI bleeding. Diffuse colonic involvement particularly simulating acute colitis on colonoscopy is reported only twice.

Title: Cardiac tamponade, an unusual cause of a severe headache with normal blood pressure

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Introduction: Cardiac tamponade is a life-threatening slow or rapid compression of the heart due to increasing pericardial fluid. The symptoms of cardiac tamponade classically include hypotension, distended jugular pressure and muffled heart sounds which are known as Beck's triad. And in this situation urgent pericardiocentesis is mandatory, otherwise may lead to an impending cardiac arrest and subsequent death if not treated at the right time. It rarely presents with severe headache as the main presenting symptoms.

Case report: We present a case of 60 years old obese man with multiple comorbidities presented with acute severe headache which was severe enough to disturb his sleep with mild shortness of breath. CT brain was unremarkable for any acute insult. Echocardiography was done which showed a large pericardial effusion (Circumferential) with respiratory variation and RV collapse as shown in the figure and hence urgent pericardiocentesis was done with removal of 800ml of bloody fluid that leads to complete resolution of the patient's severe headache. We also did extensive thorough investigations that has ruled out central causes, infectious, autoimmune and malignant etiology. And found only MRI scan positive for myocarditis which is most likely of idiopathic etiology.

Conclusions:

- Headache is a rare presentation of pericardial tamponade, up to our limited knowledge after extensive research and article studies, such presentation has not been reported much. Headache could be attributed to impaired systemic venous return to right heart due to high pericardial pressure that lead to reduced drainage of cerebral venous flow into the right heart via jugular vein as illustrated in the diagrammatical presentation of brain venous drainage anatomy.
- On the basis of this case report, we emphasize, the importance of history taking, physical examination with specific diagnostic approach in dealing such a life-threatening condition but with rare presentation.

Title: Branched retinal artery occlusion due to Patent Foramen Ovale in a young patient

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Background & Introduction:

Patent foramen ovale is a physiological opening present in fetal life between left and right atria and is pathological when it persists in adult life. It is present in 20-30% of population and found in 27% in general population who underwent routine autopsy. However, in majority of the cases it is not a harmful condition. It can act as a potential source of thrombus from venous circulation through left atrium and into the systemic circulation.

Central retinal artery occlusion occurs with an incidence of 1/50,000 in patients with PFO and atrial aneurysm and we present a much rarer case of branched central retinal artery occlusion associated with similar medical condition.

Loss of vision due to retinal vessel occlusion is very rare in young age and if present is attributed to a systemic or cardiac abnormality. In patients younger than 45 years with retinal vessel occlusion 45% have underlying cardiac abnormality out of which 27% require anticoagulation or cardiac surgery.

Case Report:

31-year-old man without any prior medical condition presented with a 2-day history of sudden onset of decreased vision and blurriness in left eye. Symptoms started while the patient was watching football match on TV. Patient described the visual disturbance similar to the appearance of a static TV as black and white dots. It was painless and occurred in the absence of trauma with no history of similar episodes in the past.

We consulted cardiology, neurology and ophthalmology teams. Ophthalmoscopic examination revealed left macular edema and left branched retinal occlusion, the rest of the medical examination was normal. CT and MRI head performed and manifested no vascular abnormality. Echocardiography revealed a large atrial septal aneurysm and a small PFO with shunting which accentuated on Valsalva maneuver (figure 1). The patient also underwent upper and lower extremity Doppler ultrasonography, which ruled out Deep Venous Thrombosis. A Holter monitor was also attached which showed no evidence of arrhythmia or atrial fibrillation.

To exclude causes of retinal artery occlusion in a young patient the following investigations were performed including factor V Leiden mutation, Protein C and S deficiency, essential thrombocytosis with JAK-2 mutation, Homocystinuria, Syphilis and Autoimmune diseases screen but all results were normal.

Based on all thorough investigations we performed, it concluded that this event was a result of an embolism via PFO associated with atrial septal aneurysm. Aspirin was prescribed for primary prevention based on the echocardiography report and he was referred for corrective surgery for PFO as well. Later, at one-month follow up of the patient; there were no further episodes of thromboembolic phenomena reported.

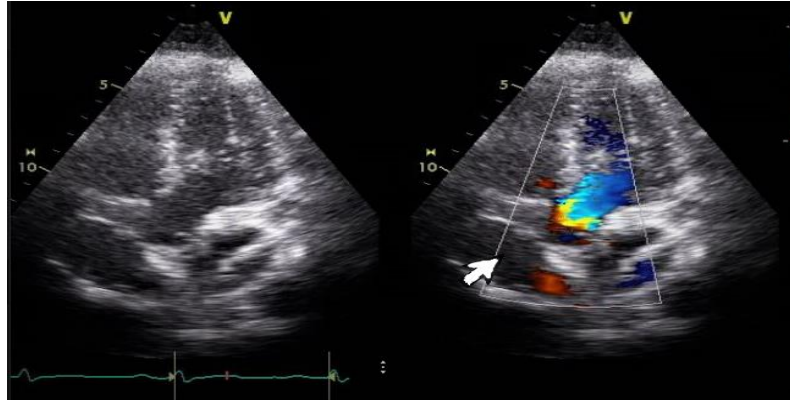


Figure 1: Echocardiography above illustrates the presence of an atrial septal aneurysm as well as a patent foramen ovale (white cursor).

Conclusions:

Association between patent foramen ovale and branched retinal artery occlusion is not much reported. Intra-cardiac shunting cause turbulence of blood flow, allows the formation of emboli, which later dissociate into the systemic circulation, and leads to occlusion. And ophthalmological examination has played an important role in leading to the etiology of blurred vision. We have to exclude other possible differential diagnosis as well before considering PFO as a cause while simultaneously keeping an open-minded view regarding its possibility since in time treatment and diagnosis can be helpful to minimize the visual loss in such cases.

Title: Egg not the chicken, Pericardial Effusion Leading to Acute Kidney Injury

Authors: M Ezzat, M Elshirbeny, A Nauman, E Abuhelaiga, H Almaliki

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Case Report: A 50 year old female, known diabetic for 30 years, hypertensive for 7 years, gout, diabetic retinopathy and Chronic Kidney Disease secondary to diabetic nephropathy with baseline Cr of 190 umol/L, was admitted to medical service for progressively increasing leg swelling, dyspnea and orthopnea of 1 week duration. Her BP was 153/66, HR 86, O2 Sat 98% on room air. She had pitting oedema up to the thighs, bilateral fine inspiratory crackles at lung bases and distended neck veins. She was started on IV Furosemide and later metolazone. Over next few days, oedema, dyspnea did not improve and Cr gradually increased. A relative reduction in BP to values around 120/60 was noted. A NM VQ Scan was negative for Pulmonary Embolism, ECHO revealed an EF 55-60%, diastolic dysfunction and moderate pericardial effusion. Non Contrast CT of Chest revealed patchy ground glass opacities in lower lobes, raising possibility of hypersensitivity pneumonitis. Due to progressively rising creatinine that peaked at 609 umol/L, oliguria, and worsening acidosis, Hemodialysis was started. A repeat ECHO showed large pericardial effusion with no evidence of Tamponade. Daily dialysis was carried out, and after 6 sessions there was no reduction in size of effusion and symptoms continued. Patient underwent pericardial window with drainage of 800ml of fluid. This was immediately followed by increase in urine output and reduction in creatinine back to her baseline.

Conclusions: Pericardial effusion in setting of Renal Failure is often a consequence of later, which is treated by aggressive dialysis. It's less well recognized that large effusion can lead to oliguric AKI that is readily treatable by drainage of pericardial effusion. Proposed mechanisms of AKI in this setting are hemodynamic compromise, activation of renin angiotensin system, renal vasoconstriction, and reduced ANP.

Title: Syndrome of inappropriate ADH secretion as a paraneoplastic syndrome with patient diagnosed with gastric Adenocarcinoma

Authors: M Naeem, M Ghazzawi, Department of Medicine, Hamad General hospital, Doha, Qatar

Department of internal medicine, Hamad General Hospital, Doha, Qatar

Background: Syndrome of inappropriate antidiuretic hormone (SIADH) is defined as euvolemic, hypotonic hyponatremia secondary to impaired free water excretion, usually from excessive arginine vasopressin (AVP) release. SIADH is commonly caused by many types of malignancy including lung, brain bladder, pancreas, head and neck cancer and some types of leukemia and lymphoma. However, there are a very few reported cases indicate the association of gastric adenocarcinoma with SIADH

Case presentation: 63 years old gentleman presented to the hospital complaining of post prandial epigastric pain, early satiety and anorexia. on examination, a palpable left supraclavicular lymph node was noted. Work up showed Anemia and CT scan of the abdomen showed multiple enlarged intraabdominal lymph nodes with thickening of gastric mucosa especially in antral region. The upper GI Endoscopy and biopsy confirmed the gastric adenocarcinoma with lymph nodes involvement on staging CT. On admission, the patient also found to have hyponatremia. Appropriate investigations were sent and the results showed low serum sodium and osmolality with inappropriately high urine osmolality and sodium, suggestive of SIADH. Patient had no hypotension or hypovolemia, and had normal thyroid, adrenal and kidney functions. His Na levels showed improvement after water restriction.

Discussion: SIADH is commonly presented as one of paraneoplastic syndromes with many common malignancies. However, the association between SIADH and gastric adenocarcinoma is very rare and only very few cases were reported in medical literature, and our case in one of the few reported cases.

Title: Rare case of direct Anti-globulin test (DAT) negative Autoimmune hemolytic anemia associated with Adrenal insufficiency

Authors: M Naeem, M Zahid, M Ghazzawi, A Khan

Department of Medicine, Hamad General Hospital, Doha, Qatar

Background: Autoimmune hemolytic anemia is an uncommon disorder characterized by hemolysis mediated by autoantibodies directed against self-red blood cells, with the incidence of 1–3 per 100,000/year and mortality rate of approximately 11%. The direct antiglobulin test (DAT) is considered to be a cornerstone in establishing the diagnosis of AIHA, but not all cases of AIHA are DAT-positive. Between 5% to 10% of all cases of AIHA are DAT-negative. Three causes for this situation have been identified: (i) red blood cell bound IgG molecules, below the threshold of detection of the DAT, (ii) low-affinity IgG autoantibodies that are washed off the red cells during the washing phase for the test, and (iii) red cell bound IgA and rare warm IgM autoantibodies that are not detectable by the routine anti-human globulin reagent. Adrenal insufficiency is another uncommon disorder and can be primary or secondary.

Case presentation: 32 years old Nepalese gentleman with no chronic medical illness presented with fever, fatigue and weight loss and found to have anemia with Hb 6.7, the diagnosis of hemolytic anemia was made on the basis of high reticulocyte count, low Haptoglobin and high LDH and Bilirubin. Complete work up for hemolytic Anemia including two Direct Anti-globulin tests with elution came negative. Final diagnosis of DAT negative AIHA was made and confirmed by substantial response to steroid treatment. He was also diagnosed with Adrenal insufficiency based on clinical and laboratory features before starting the steroids.

Discussion: DAT negative AIHA is a rare disorder, but well documented in literature. However, the association with Primary Adrenal insufficiency is possible (Autoimmune mediated), but not reported in the medical Literature.

We conclude that there is probable association between AIHA and Primary Adrenal Insufficiency and clinicians should be aware of this and should suspect and investigate it appropriately when clinically indicated.

Title: Bilateral Acute Cerebellitis Post EBV Infection: A Case Report

Author: S Al.Shokri , S.Karumannil, M.Sadek

Department: Internal Medicine Hamad Medical Corporation Doha

Background: Acute cerebellitis is an acute inflammation of the cerebellum, and it is a rare condition in adult patients. Yet, it is mostly found among paediatric group. Etiology is unknown, but primary infection or para-infectious have been proposed as possible culprits. Different presentations have been reported in the literature, making the diagnosis as a challenge.

Case Report: we report a previously healthy, young gentleman who presented with headache, vomiting, and ataxia. MRI brain showed bilateral acute cerebellitis, and CSF studies showed lymphocytosis. Further investigations showed nothing except positive EBV serum serology. His symptoms resolved completely with corticosteroid and antiviral.

Conclusions: Acute cerebellitis should be considered as one of differential diagnosis of ataxia in adult. Proper investigations and prompt treatment is crucial in preventing unfavourable sequelae. Fortunately, this patient was diagnosed at early stage. He received adequate treatment with complete resolution of his symptoms.

Title: Chikungunya virus infection-related rhabdomyolysis

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Department: *Internal Medicine Hamad Medical Corporation Doha, **Boston Medical Center, ***Beth Israel Deaconess Medical Center

Introduction: Only few reports are available about rhabdomyolysis as a complication of Chikungunya virus infection.

Case description: A 34-year-old Indian male patient presented with 2 days history of fever, myalgia, and arthralgia. The patient had traveled from India to Qatar 6 days prior to presenting to the hospital. He also complained of diarrhoea and dark colour of urine.

On initial examination, his oral temperature was 39.4 °C, blood pressure was 90/40 mmHg. He had also conjunctival injection, but otherwise, the examination was normal.

The patient was resuscitated with 5 litres of normal saline and then blood pressure normalized.

Laboratory testing on admission revealed serum creatinine of 217 umol/L, urea 7.1 mmol/L. He had +3 blood in the urine dipstick with no Red blood cells in urine microscopy analysis. Creatine kinase level was high (>2000 U/L).

During admission, serum creatinine improved to 70 umol/L.

Serology was positive for Chikungunya IgM antibodies.

Patient condition improved with supportive treatment and was discharged home.

Discussion: Our literature search revealed a reported case of culture-confirmed Chikungunya virus infection -associated death in a patient who developed an acute exacerbation of pre-existing heart failure, rhabdomyolysis.

After the outbreak of Chikungunya virus in La Re´union islands in 2005, a recent study discussed the role of attacking muscle satellite cells in the incidence of rhabdomyolysis. According to the study published by Ozden et al, 'Immunohistology on muscle biopsies from two Chikungunnya virus-infected patients with myositic syndrome', showed that viral antigens were found exclusively inside skeletal muscle progenitor cells (designated as satellite cells), and not in muscle fibers. Also, the study showed that the virus has the ability to replicate inside these cells with cytopathic effect.

Conclusion: To conclude, physicians should be aware that rhabdomyolysis could be a part of Chikungunya virus infection presentation, which necessitates early and aggressive fluid resuscitation.

Title: A Case of Female Acute Urinary Retention Presenting to the Emergency

Author: K Kamran

Department of Urology, Alkhor Hospital, HMC, Doha, Qatar

Introduction: Acute urinary retention is a rare occurrence in women necessitating further investigation. Potential underlying causes may be broadly classified into obstructive, neurological, pharmacological, and psychogenic categories. Urinary retention in women is a rare occurrence, with an overall incidence of 0.07 per 1000 inhabitants per year.

Herein we describe our experience with a young female patient who presented to the Emergency Department with acute urinary retention.

Case: A 46-year old female presented to the Emergency Department with a one day history of acute urinary retention. Point-of-care ultrasonography and CT scan imaging confirmed the presence of a large uterine mass causing compression of the bladder. The acute retention was relieved with urethral catheterization. A Uterine leiomyoma was confirmed on histology.

Discussion: Once the acute urinary retention has been relieved by insertion of a urethral catheter, the underlying cause of the obstruction must be determined. Although uterine leiomyoma is a fairly common finding in the general population, it is an extremely rare cause of acute urinary retention in women with just a handful of reported cases in the literature.

Title: Testicular sclerosing sertoli cell tumor: A case report and review of the literature

Author: K Kamran

Department of Urology, Alkhor Hospital, HMC, Doha, Qatar

Introduction & Objectives

Sertoli cell tumor of the testis is a rare sex-cord stromal tumor composed of cells expressing varying degree of features of fetal, prepubertal or adult Sertoli cells. This type of tumor accounts for less than 1% of all testicular tumors and is classified into three variants by the World Health Organization Classification, namely Sertoli cell tumor not otherwise specified (NOS), large cell calcifying Sertoli cell tumor, and sclerosing Sertoli cell tumor (SSCT). SSCT is an extremely rare variant of Sertoli cell tumor, first described by Zukerberg et al. in and only few cases with histopathological features have been reported in the literature .Herein, we report an additional case of this extremely rare tumor with detailed immunohistochemical analyses and review of the literature. A 33 year-old Pakistani male presented with an asymptomatic nodular lesion in his left testis. Physical examination revealed a relatively well-circumscribed elastic hard nodule in his left testis. **Materials & Methods**

Key words: Testicular neoplasm, Sertoli cell tumor, Sclerosing Sertoli cell tumor. A 2. 33 year-old man was referred to the Department of Urology for an incidentally detected left testicular mass. The mass was identified during a work-up for transient left testicular discomfort. His only notable medical history was nephrolithiasis. There was no personal or family history of testicular cancer or cryptorchidism. On physical examination, he was a well-nourished, well-masculinized young man without gynecomastia. Laboratory tests revealed that tumor markers were within normal ranges (alpha-fetoprotein was 1.3 ng/mL (range <10) and human chorionic gonadotrophin was

Results: Accordingly, an ultimate diagnosis of SSCT of the testis was made. The post-operative course was uneventful, and no tumor recurrence or metastasis has been observed during 4 months of medical follow-up.

Title: Case Report Primary localised amyloidosis of the urinary bladder: A recurrent and progressive disease

Author: K. Kamran

Department of Urology, Alkhor Hospital, HMC, Doha, Qatar

Abstract: Primary amyloidosis results from the deposition of amyloid protein fibrils in the extracellular space and rarely involves the urinary bladder. We present a 41-year-old man who was diagnosed with primary amyloidosis of the urinary bladder and underwent two sessions of transurethral resection of the bladder mass 4 years prior. Recently, the patient was admitted through the emergency with painless frank haematuria. Computed tomography of the abdomen and pelvis revealed a bladder mass that was larger than the previously reported mass. A repeat cystoscopy and resection of the mass was performed. Histopathological examination of the resected tissue revealed primary amyloidosis of the urinary bladder. A comprehensive examination was performed to exclude systemic amyloidosis.

Title: Post PCNL Hematuria - Alarming one

Author: K. Kamran

Department of Urology, Alkhor Hospital, HMC, Doha, Qatar

Introduction: A renal artery pseudoaneurysm (RAP) is created by high-pressure blood passing from a lacerated artery into the renal parenchyma. RAP has been reported to occur after trauma, renal biopsy, percutaneous nephrostomy, percutaneous nephrolithotomy (PCNL), and open or laparoscopic partial nephrectomy (LPN). Percutaneous renal procedures could lead to renovascular injuries such as a hematoma, arteriovenous fistula, or pseudoaneurysm.

The reported incidence of a RAP following PCNL is 0.6% to 1% . It is usually assessed by renal angiography. Pseudoaneurysms following PCNL are typically small and have a low pressure. Clinicians should always bear in mind that a patient with a history of minimally invasive intervention may have a RAP.

To the best of our knowledge, RAP after PCNL has been reported in only a few cases. However, with the popularity of PCNL and other renal endoscopic procedures, the incidence of this rare complication is likely to increase. We present a case of a intrarenal pseudoaneurysm after PCNL and review the literature about this rare but life-threatening complication.

Discussion: Renal artery pseudoaneurysms IS an important complication of minimally invasive surgery and ITS occurrence is expected to increase as these procedures become more common . Michel et al [reported that urologists must consider a number of factors when planning or performing PCNL to avoid the complications associated with endourologic percutaneous procedures and to ensure optimum outcomes for patients.

Conclusions: RAP is a rare but potentially life-threatening condition that is often difficult to diagnose and requires a high index of suspicion. Often it can be managed with angioembolization to minimize morbidity and maximize renal conservation

Title: A Case Series of IgG4-related Disease Mimicking Malignancies

Authors: M. Gharib, E. Satti, I. Khanjar , A.AL-Allaf

Department of Rheumatology, HMC Doha Qatar

Case report:

IgG4 related disorder is a new evolving immune-mediated disease, with wide range of clinical features involving multiple systems, which could mimic malignancies. The diagnosis depends on clinical and characteristic histopathology findings.

Case 1: 58-years old gentleman, presented with multiple lymphadenopathies, parotids

enlargement, orbital swelling & obstructive jaundice. MRCP confirmed pancreatic head mass. Provisional diagnosis was lymphoma vs pancreatic malignancy. However, excisional LN biopsy revealed increased nodal IgG4 plasma cells (>30/hpf), consistent with IgG4-related disease which was supported by elevated serum IgG-4 .

Case 2: a years old gentleman, admitted with recurrent seizures episodes. MRI head showed right extra axial mass with Dural involvement & right frontal focal full thickness bony defect. The provisional diagnosis was a CNS malignancy. As part of screening CT chest showed multiple lung nodules. Accordingly, provisional diagnosis was lung cancer with brain metastasis. excisional brain biopsy was reported as inflammatory sclerosing pseudo tumor lesion with positive IgG4 plasma cells>10/hpf compatible with IgG4 related meningeal disease.

Case 3: 50 years old gentleman presented with multiple lymphadenopathies, bilateral nasopharyngeal and epiglottic mass. suspected to have lymphoma vs nasopharyngeal tumor. Excisional cervical lymph node biopsy confirmed IgG4 disease, supported by high serum IgG4.

Case 4: 56-year-old male presented with fever, night sweats, weight loss & back pain. CT abdomen showed a retroperitoneal soft tissue mass suspicious of lymphoma vs sarcoma. Laparoscopic tissue biopsy showed mixed lymphocytic infiltrate with multiple IgG4 plasma cells & significant tissue eosinophilia.

Conclusions: IgG4 disease could be easily confused with malignancies and a high index of suspicion is essential for early diagnosis for this treatable and curable disease, which if left untreated could lead to irreversible fibrosis and multiple organs damage.

Learning points:

It is essential to consider this diagnosis of IgG4 disease in patients with possible lymphoma and other malignancies.

Title: Adalimumab-induced Multiple Sclerosis in a Patient With IBD-related Arthritis

Authors: M. Gharib, H. Abdulaziz

Department of Rheumatology, Hamad Medical Corporation, Doha, Qatar

Case report:

TNF blockers have revolutionized the management of immune-mediated inflammatory diseases. Despite their relatively safe profile, an increasing number of reported neurological adverse events suggest a role for TNF inhibitors in the induction of central and peripheral nervous system demyelination.

We report a 21 year-old Qatari gentleman who was on adalimumab for HLA-B27 negative peripheral spondyloarthritis. After being maintained on adalimumab for 2 years, he presented acutely with headache, urinary incontinence and bilateral lower limb numbness that progressed to mid-trunk over 2 days. The neurological examination revealed dysesthesias of lower extremities and trunk up to T4 dermatomes with brisk tendon reflexes. His muscle power and cranial nerves examination were normal.

A diagnosis of multiple sclerosis has been suggested by the typical findings of classical multiple hyper-intense enhancing lesions. Our patient has no family history for such diagnosis.

Discontinuation of Adalimumab resulted in complete resolution of the neurological symptoms within a month. However, he then developed abdominal pain with loose bloody motions for which Ilio-colonoscopy and biopsy confirmed the diagnosis of Crohn's disease.

We think that his GI symptoms were unmasked by the discontinuation of his Adalimumab. Interestingly we found that he has a strong family history of inflammatory bowel disease.

This case illustrates the importance of being vigilant for neurological side effects of anti-TNF α blockers with early discontinuation of the TNF- α blockers and requesting urgent MRI scan. Long term follow up is mandated in such cases to trace relapse rate and clinical outcome.

Learning points:

1-Although TNF inhibitors induced demyelinating lesions are rare, they are a predictable side effect of TNF blockers use.

2-Thorough neurological evaluation of candidates on TNF blockers is mandated to diagnose early any neurological deficit that could suggest a possible demyelinating condition that prompts immediate MRI imaging and discontinuation of the drug.

Title: Sclerotic Bone Metastasis in Pulmonary Adenocarcinoma

Authors: K Farooqui, R Hammamy, W Ghadban

Department: Medicine Al-Khor Hospital, Hamad Medical Corporation, Qatar

Case report:

Pulmonary adenocarcinoma is one of the major type of lung cancers in which metastasis is very common and it accounts approximately one third of all primary pulmonary cancers. Although a minority of patients with lung cancers are symptomatic , which usually get detected in routine chest radiography, most of the patients present with some symptoms. Lung cancer metastasis may occur virtually in every organ system. Patient with non small cell lung cancer commonly have extra thoracic metastasis to the adrenal glands, liver, brain , bones, and lymph nodes at presentation. Approximately one third of patients lung cancer presents with symptoms related to extra thoracic spread. Metastasis to the bone is not uncommon in lung cancer, however osteoblastic bone metastasis is very rare. Here we present a 30 year old female diagnosed to have pulmonary adenocarcinoma with multiple sclerotic bony lesions in the vertebra.

Title: Renal Infarction A rare case report

Authors: S Dar, S. Abu Salah, N. Shakir

Department: Emergency, HGH, Doha

Case Report

We present a case of 58 year old female with sudden onset right flank pain since 3-4 hrs associated with few episodes of vomiting. She had history of recurrent migraines since 11years and was on zolmitriptan for 10 years was using it three times every month however over last ten days she used initial investigations, including complete blood counts, basic metabolic panel, liver function tests, lipase and urinalysis, were all within normal limits. CT scan of abdomen with contrast showed Mid and lower third of right kidney and posterior aspect of inferior third of left kidney reduced contrast enhancement. After extensive workup, it was deemed that her renal infarcts were due to zolmitriptan. She was managed conservatively and improved significantly during the course of her hospitalization. She was sent home in a stable condition with recommendations to stop zolmitriptan.

Discussion

Triptans are 5-hydroxytryptamine receptor 1B/1D (5HT-1B/1D) receptor agonists. Through these receptors, triptans cause vasoconstriction of the cerebral vessels thus reversing the abnormal vasodilation and relieving migraine headache. Triptans, due to their inherent property of vasoconstriction, can result in myocardial infarction, cerebrovascular ischemia, mesenteric ischemia, spinal cord ischemia, or splenic infarct due to arterial spasm . A review of literature revealed three cases reported of renal infarction due to triptans .We believe renal infarction in our patient was caused by Zolmitriptan.

Conclusions: The aim of this report is to stress the potential adverse effects of triptans. Because triptans are commonly used medications, it is important to remember the vasoconstrictive properties and be vigilant about prescribing to patients with history of hypercoagulable/atherothrombotic disease.

Learning points:

Renal infarction a rare condition which happens due to embolic/thrombotic occlusion of the renal artery or vasospasm of the renal artery. Triptans are well tolerated medications with known side effects of arteriolar vasospasm and end-organ ischemia.

Title: Stay Alert -The great Masquerade

Authors: N. Purayil, F. Dar, S. Abosalah, S. Parambath, N. Shakir, S. Parampil, P. Joseph, J. Sirajudheen

Department: ED-Observation Unit- HMC Hamad General Hospital Qatar

Case -1

15 yr old girl presented with fever and rash of 2 weeks duration. Prior to admission she took treatment for flu symptoms . No associated joint pain, diarrhea or similar episode in past. Pt was febrile. Had macula papular rashes over the body involving the oral cavity. Initial possibilities considered were viral exanthema, Drug rashes, IMN or Steven Johnson Syndrome. Pt was started on antihistamines .Since symptoms persisted, steroids were initiated. All lab investigations were normal .A vasculitis work up revealed Ro positivity (table 1).With the presence of isolated Ro positivity with rheumatoid factor and ultrasound evidence of parotid involvement, her symptoms will be explained by Sjogren syndrome rather than SLE.

Case 2

40 yr old female who underwent cholecystectomy 3 weeks back presented with abdominal pain. On Examination she was afebrile and had mild tenderness in the Rt Hypochondrium. Ultrasound revealed minimal fluid at the Gall bladder bed. In hospital developed fever and rashes over the body which was attributed to drug allergy. Due to persistent pain and fever a CT scan was performed. This showed thickening involving the stomach, ascending and transverse colon with mild abdominal free fluid. She developed renal impairment. With history of joint pain 8 yrs back, a connective tissue disease screening requested . This was positive for ANA/dsDNA/Low complement. With multisystem involvement and this lab results possibility of Acute SLE flare considered. Initiated on Methyl prednisolone Pulse therapy / mycophenolate mofetil and Hydroxychloroquine. She responded well to treatment.

Learning Points

Autoimmunity can contribute to an ongoing disease by heightening and extending the pathology. A disease may require treatment as infectious or immune-mediated, depending on clinical findings. High index of clinical suspicion and demonstration of auto antibodies is the first step in the diagnosis of an autoimmune disease.

Title: Opalski Syndrome A rare variant of Lateral Medullary Syndrome

Authors: A. Alzubier, P. Iqbal, T. Elsafi

Department: Internal medicine, Hamad General Hospital Doha

Introduction:

Lateral Medullary Syndrome (LMS) also known as Wallenberg syndrome is commonly due to posterior inferior cerebellar artery occlusion, and presents with signs and symptoms specifically dysarthria, diplopia, vertigo, Horner's syndrome, numbness in ipsilateral face and contralateral limb. LMS typically is not associated with any limb weakness. Opalski syndrome is a rare variant of LMS, which owes uniqueness to its presentation as the signs of cranial and motor deficits are both ipsilateral and is considered as a result of infarction extending in the medulla oblongata involving region caudal to the decussation of pyramidal tracts. We report such a unique case of Opalski syndrome, to focus on signs and symptoms of diagnostic value.

Case report:

A 48 year old Filipino male gentleman, known case of hypertension, type 2 diabetes mellitus and coronary artery disease, status post coronary artery bypass graft done 6 months before the presentation, for severe three vessel disease, woke up with severe vertigo and right sided weakness. On examination there was associated mild right sided weakness (4/5) with a positive Babinski sign, mild dysarthria, torsional nystagmus, right upper limb pronator drift, right sided dysmetria, with uvula deviation to the left side and intractable hiccups. In addition, the patient's ability to swallow was impaired. The rest of the sensory and motor examination was unremarkable for any other sign and symptom.

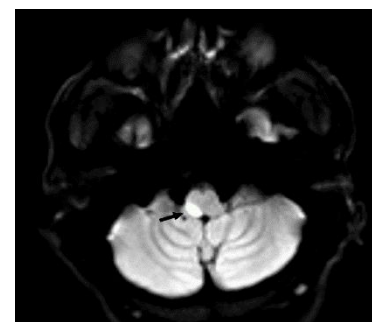
Echocardiogram showed a severely dilated left atrium, which may have been the cause of the thromboembolic phenomena. 48 hour Holter monitoring showed multiple arrhythmias, but no atrial fibrillation. CT scan was performed and it showed old changes that included a small focal hypodense area in the right gangliocapsular region, likely representing gliotic changes from a previous insult, but was unremarkable for any new insult. Urgent MRI imaging of the brain was arranged on the basis of the patient's clinical presentation and found a remarkable insult that involved an acute infarct in the right lateral medulla minimally extending medially at its superior aspect, without any hemorrhagic transformation.

Conclusions:

There are other variants as well like pontomedullary sulcus infarct and Babinski Nageotte syndrome which are challenging when a patient presents with it, however the clinical presentation along with diagnostic approach with MRI diffusion weighted images helps us to find the anatomical region involved.

It is not only challenging, but helpful in understanding functions of vascular territories of brainstem. Moreover, in our case, the patient suffered a complicated course later due to extension of brainstem infarct, points towards the importance of vigilant and timely management of Opalski syndrome when is diagnosed.

Figure 1. Black arrow pointing towards the area of lesion in the brainstem in MRI brain



Title: Spot the Double Jeopardy - Glucocorticoid Allergy

Authors: S. Chalihadan, A. Azad, A. Punnorath, N. Amra, J. Mathew, I. Varikkodan

Department: Accident and Emergency Alkhor Hospital/ Hamad Medical Corporation Alkhor, Qatar

Case Report

Background: Acute hypersensitivity reaction is always an insoluble dilemma for physicians. The antiallergic properties of glucocorticoids would seem to contradict their capacity to induce allergic reactions. The critical nature of the problem is complicated by the fact that the physician does not consider the diagnosis and increases the drug dose attributing to insufficient treatment as there is rapid deterioration. This contradictory response leads to terrible outcomes, if not death particularly in status asthmatics or anaphylactic reactions.

Objective: The present report aims to raise awareness about the prevalence of such a life threatening clinical condition and if a high degree of suspicion is not practiced death is a certainty

Case report: We report the case of a patient with acute anaphylactic shock following one dose of hydrocortisone. She collapsed in the ED following which CPR was initiated and adrenaline and diphenhydramine was given. She was resuscitated and stabilised. She was recently prescribed oral prednisolone for acute exacerbation. Further skin testing showed hypersensitivity to prednisolone and hydrocortisone.

Discussion: Allergy to glucocorticoids is a reality with enough and more literature to support the claim. Skin testing with possible culprit drug and alternate drug is mandatory in suspected cases. Challenge evaluation procedure helps in choosing a safe alternate agent. Diagnosis of immediate hypersensitivity reaction is based upon clinical history, and physical examination if evaluated during reaction

Conclusions: This case report show and tell that clinicians should practice high degree of suspicion regards glucocorticoids causing clinical deterioration in anaphylactic patients. Worsening of clinical status may not always be treatment failure and is a clue for the physician to think out of the box before crossing the point of no return. Desensitisation should be considered for suspected patients for IgE type immediate hypersensitivity for whom there are no acceptable alternate medications.

Title: A case of extragonadal yolk sac tumor involving the sigmoid colon, liver, and peritoneum

Authors: K. Elfert, B. Tanous, A. Mahfouz, A. Zar Gul

Department: Internal Medicine Hamad General Hospital, National Center of Cancer Care and Research Doha

Case Report:

Introduction:

Yolk sac tumor, also known as endodermal sinus tumor (EST), is a rare tumor which is usually located in the gonads. However, YSTs have also been reported in different extragonadal sites.

Case description:

We report a case of 19-year-old Pakistani male patient who presented to the hospital with epigastric abdominal pain and decreased appetite for one month. He also gave a history of bleeding per rectum and weight loss of 10 kg.

Physical Examination revealed hepatomegaly. Testicular examination was normal.

Ultrasound abdomen showed multiple heterogenous hypoechoic lesions in the liver.

MRI abdomen also showed multiple focal liver lesions of both lobes. Afterwards, CT of neck, thorax, abdomen, and pelvis showed the same findings in MRI abdomen. In addition, it showed soft tissue mass infiltrating the sigmoid colon wall; multiple enhancing peritoneal nodules; and multiple enlarged lymph nodes at mesenteric, retrocaval, paraaortic regions.

Laboratory investigation showed that viral serology was negative. AFP was 2492 IU/ml.

The patient underwent CT guided biopsy of the liver. Also, he underwent colonoscopy with biopsy of the sigmoid mass. Both biopsies showed malignant neoplasm, with morphological and immunohistochemical features favouring yolk sac tumor.

The patient was started on BEP protocol (Bleomycin, etoposide and cisplatin) cycle I, and it was complicated by tumor lysis syndrome. Patient condition deteriorated in a few days and he passed away.

Discussion:

The common sites for extragonadal ESTs are mediastinum, retroperitoneum, and brain.

Our literature review revealed only a few cases of extragonadal YSTs originating from mesentery of the transverse colon, omentum, liver and pancreas. In our case, the tumor involved the sigmoid colon with metastases to inferior mesenteric lymph nodes and with involvement of liver and peritoneum. YSTs have a large disease burden due to the high mitotic rates; this leads to increased risk of tumor lysis syndrome.

Title: A rare complication of streptococcal Para pharyngeal abscess- a case report

Authors: S. Valappil, F. Umminiyattile, M. Ahmed, E. Al-Sulaiti, M. Ramadan, S. Syamala, H. Al Hamad, S. Khan

Department: Geriatrics & Long-Term Care Rumailah Hospital Doha

Introduction:

Flash pulmonary edema secondary to a neck infection is a very rare clinical event. We report a case of flash pulmonary edema with a hypertensive emergency in an otherwise healthy young male, due to acute post-streptococcal glomerulonephritis (PSGN).

Case Presentation:

A 25-year-old male presented with neck swelling and odynophagia. CT scan of the neck revealed right posterior oropharyngeal abscess. Soon after admission, he was found unconscious with tachypnea, tachycardia, hypertension, hematuria, and desaturation. Evaluation revealed proteinuria, elevated serum creatinine, and low serum complement C3 level. Serum ASO titer was high indicating recent streptococcal infection. Chest X-ray & raised pro-BNP (>9,000) were in-keeping with acute left ventricular failure. He was diagnosed with flash pulmonary edema caused by accelerated hypertension (BP was 230/130) and treated with antihypertensives. The patient improved with IV clindamycin and was discharged with oral antihypertensive. On follow up, the patient was asymptomatic with normal blood pressure and renal function.

Learning Points:

1. PSGN is an immunologic complication secondary to infection with nephritogenic strains of group A β -hemolytic streptococci.
2. Hypertension is present in 50 to 90 percent of patients. Accelerated hypertension causing target organ damage is an uncommon but serious complication.
3. There is no specific therapy for PSGN. Management is supportive.
4. A kidney biopsy is generally not recommended in the evaluation because the clinical history is usually highly suggestive, and resolution typically begins within one week of presentation.

Title: A Young Man with Hypertension, Hypokalemia and Gynecomastia

Author: A. Khan

Department: Medical Department Qatar gas Operating Company Ltd, Al Khor, Qatar

Case Report:

History: 38-year-old Indian employee was seen in our Community Hypertension Clinic with raised BP for 6 months, not on any medications. His past history included GERD for which he took regular antacids. 6 months prior to presentation he was diagnosed with gynecomastia and was offered excision but he declined. He was otherwise asymptomatic.

He was married with two children with no h/o impotency. Father died of throat cancer.

Examination: BP: 162/87 Pulse: 86/min. BMI-26.1

Breast – bilateral gynecomastia with palpable subareolar tissue. Tanner Stage IV.

Testes- normal; Normal hair

Imaging: MRI/CT: Showed a lobulated mass from the left Adrenal gland 9.4 X 5.9 X 5.4cm suggestive of Adrenocortical Carcinoma

Management: Hypertension was controlled with Valsartan and Norvasc. Complete surgical resection of the left adrenal mass, weighing 337 g, was done laparoscopically.

Histopathology confirmed Adrenocortical Carcinoma with a WEISS Score of 7.

Postoperatively, he was started on dexamethasone. Anti-hypertensive medication was withdrawn as his BP normalized. Radiotherapy and mitotane were commenced. FDG-PET Scan after 6 months of surgery, showed peritoneal and lung metastases. Intensive chemotherapy started with Doxorubicin, Etoposide, Cisplatin along with mitotane.

Discussion: Adrenocortical Carcinomas are rare, often aggressive tumors with an incidence of one to two per million per year. Our case is very rare as it presented with feminization and hyperaldosteronism which occurs fewer than 10 percent in ACCs. The diagnosis initially was delayed as gynecomastia was attributed to cimetidine. Laboratory tests of hypokalemia, mild metabolic alkalosis combined with hypertension and gynecomastia lead to the suspicion of primary aldosteronism. MRI confirmed large Adrenal mass. No features of Cushing's syndrome. Feminization was attributed to elevated estrogen from the tumor and possible peripheral conversion of adrenal androgens.

Title: Recurrent Catamenial Pneumothorax: lessons from an unusual presentation

Authors: A. Chapra, M. Danjuma, M. Elshafei, R. Mazhar

Department: Internal Medicine Hamad Medical Corporation Doha, Qatar

Case Report:

A 32-year-old medically fit lady of African descent was admitted to HGH in November 2015 with complaints of chest pain, SOB, and weight loss. She was found to have a right-sided hemorrhagic effusion, ascites, and a right complex ovarian cyst. Her pleural effusion was drained by a pigtail catheter, later complicated by iatrogenic pneumothorax managed conservatively. Further diagnostic evaluation confirmed hemorrhagic free fluid in the abdomen. Following exhaustive evaluation for malignancy including robust imaging modalities which were unremarkable, she was discharged home with reassurance. She re-presented 5 months later with 2-week history of SOB with a recurrent right hemorrhagic pleural effusion. She was on oral contraceptive pills at presentation. Attempted thoracentesis was complicated by iatrogenic right-sided pneumothorax requiring chest tube insertion. Due to persistent pneumothorax and prolonged air leak, she underwent right VATS that showed thick, vascular pleural adhesions, hemorrhagic effusions, and few small fleshy, hemorrhagic deposits on the diaphragm with multiple tiny diaphragmatic holes. These were repaired, with a smooth post-operative course, and discharged home after 3 days.

Over the course of next 2 years' she had no untoward pulmonary symptoms, but with recurrent dysmenorrhea. Diagnostic laparoscopy done subsequently showed hemorrhagic ascites with pelvic and upper abdominal adhesions. A follow-up abdominal MRI on 25.4.18 showed endometriosis involving the pelvis, peritoneum, abdominal wall, and incidental right basal pneumothorax. Patient underwent a repeat VATS confirming recurrent pneumothorax with new holes in diaphragm that were repaired, and patient was discharged upon resolution of her symptoms

Learning points:

In conclusion, recurrent unexplained pneumo-hemothorax is a known feature of catamenial pneumothorax. It may be prudent to be wary of the possible cause/effect of inducing pneumothorax, during laparoscopic insufflation of CO₂, through the catamenial communications between abdominal and thoracic cavities in such patients. We have advised the patient to avoid induced pneumo-peritoneum-based procedures in future.

Title: Profound hyponatremia with unusual presentation

Authors: H. Fatima, M. Rehman, P. Iqbal, A. Hussain

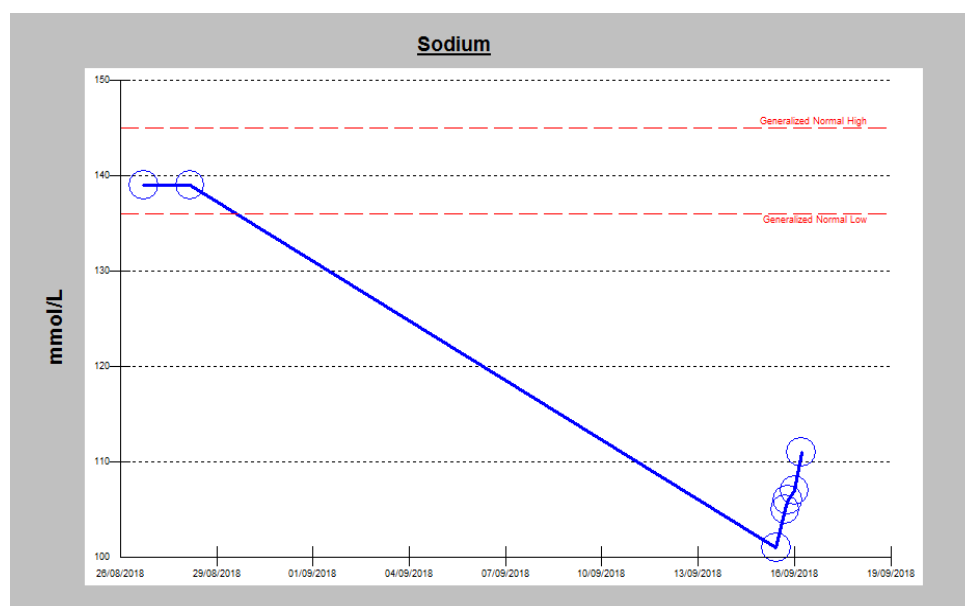
Department: Internal Medicine, Hamad General Hospital, Doha, Qatar

Introduction:

Hyponatremia is classified as mild, moderate and profound according to serum sodium levels. Mild being 130-134mmol/l, moderate 125-129mmol/l and profound <125. Acute and marked reduction in sodium level correlates with the severity of symptoms. The spectrum of symptoms ranges from headache, fatigue, nausea, gait disturbance to confusion and even seizures. We report an unusual presentation of severe hyponatremia of level 100mmol/l with only mild symptoms of gait disturbance and dizziness.

Case report:

A 54 yr old male known case of Hypertension diagnosed recently during an ischemic stroke event was given adequate management for stroke and was discharged on anti-HTN medications that included perindopril 10mg and indapamide 2.5mg. After 10 days of commencement of medications patient started having gait imbalance, which aggravated and eventually resulted in a fall for which patient sought emergent medical attention. He was conscious, alert, oriented and gave a complete history of his presentation. Keeping in mind history of recent stroke, urgent CT brain imaging was done and found to be unremarkable for any acute brain insult. On further investigations his sodium level was 100mmol/l. His anti-Hypertensive medications were stopped. To rule out other causes of hyponatremia, further work up was performed and was started on hypertonic saline as per protocol. It appears that this patient had chronic hyponatremia (>48 hours) which manifested as gait imbalance and fall but no alteration in mentation. Even though he presented with severe hyponatremia of 100 mmol/L, he did not lose consciousness nor had a seizure. It is evident from the literature that patients with sodium level less than 110 present most commonly with seizures which was not found in this patient and further added to it, marked decrease in sodium levels in 10 days after commencement of indapamide has not been reported thus make it as an unusual but important to manage case.



CR 51

Title: Challenging case of Cerebral Venous Sinus thrombosis with hemorrhage due to strangulation and re bleeding on Enoxaparin: A case report

Authors: M. Siddiqui, W. Ibrahim

Department: Internal Medicine Hamad Medical Corporation Doha, Qatar

Abstract:

Cerebral Venous Sinus thromboses is a uncommon condition however carries grave consequences, with increasing imaging use, the incidence of previously less diagnosed CVT is increasing and its management is a challenge.

We aim to highlight the occurrence of Cerebral venous sinus thrombosis in a patient who attempted self-strangulation and presented 3 days later with headache, dizziness and hoarseness of voice. Physical exam was unremarkable for any focal neurological deficit.

Patient underwent a CT scan of the head and neck with contrast which revealed bi frontal hematoma with filling defect on the right jugular vein, right sigmoid and right transverse sinuous suggestive of underlying thrombosis.

Patient subsequently had an MRI and MRV of the head and neck which confirmed the findings along with mild sub arachnoid hemorrhage.

Patient was started on Enoxaparin on the advice of the Neurologist, patient later after a day developed drop in his Glasgow coma scale with seizures and repeat CT imaging of the head revealed increase in the bi frontal hemorrhage with extension to ventricles and significant mass effect.

It is safe to conclude that the patient had increase in his intra cerebral hemorrhage due to Enoxaparin.

Although there are many studies which consider Lower molecular heparin anti-coagulation safe in patients with bleeding secondary to CVT, a high index of suspicion for possibility of worsening of the hemorrhage is prudent in its management.

Learning points:

1. Cerebral Venous Sinus Thrombosis (CVT) can be secondary to trauma to the neck
2. Although anti-coagulation is considered safe in CVT, it is important to monitor for bleeding.

Title: Case Report An atypical presentation Mucormycosis; a narrow escape

Authors: M. Abdul Qader, Z. Rahman, H. Chaudhary, I. Abubeker, K. Mushtaq, M. Aamer, A.N Elzouki

Department: Internal Medicine Hamad General Hospital Doha, Qatar

Case Report:

Mucormycosis is a rare but life-threatening invasive fungal infection that predominantly affects immunocompromised individuals, especially diabetic patients. It manifests with various clinical presentations including rhino-orbital-cerebral, pulmonary, gastrointestinal, cutaneous, renal, isolated CNS or disseminated mucormycosis. With the former being the rarest entity amongst them, causing a very high mortality rate.

We report a case of slowly progressing mucormycosis in our patient with an atypical presentation comprising a two week history of intermittent fevers, generalized fatigue and exertional dyspnea with cervical lymphadenopathy, who was eventually found to have bilateral maxillary sinus invasive disease and mediastinal lymphadenopathy. He was successfully treated with 2 weeks of liposomal amphotericin followed by 3 months of voriconazole which showed complete clinical and radiological resolution of the disease.

Title: Posterior reversible encephalopathy syndrome as a first presentation of a patient with Retroperitoneal Paraganglioma

Authors: W Gul, K Baagar, B Al Owainati, HM K Abdulla

Department: Endocrinology Hamad General Hospital Qatar

Objective/Learning Point:

Posterior reversible encephalopathy syndrome [PRES] is a clinico-radiological diagnosis that can be associated with catecholamine excess.

Case Presentation:

47 years old female presented with a sudden onset severe headache and blurred vision. Her BP was 225/107 mmHg and CT head ruled out hemorrhage. Headache responded partially to morphine. CT angiogram and venogram excluded cerebral artery aneurysms and venous sinus thrombosis. CSF analysis was unremarkable. MRI head showed subtle cortical-subcortical T2 and FLAIR hyperintensities in occipital lobes suggestive of PRES. During hospital stay, she experienced severe headache followed by generalized tonic-clonic seizures and BP rose to 230/140 mmHg. Therefore, catecholamine excess was suspected and workup showed: 24h urine noradrenaline 5205 nmol (0-570), 24h urine normetanephrines 21.95umol (0-3.45), 24h urine metanephrines 1.52umol(0-1.4), 24h urine VMA 44.99umol (0-33). Thereafter, MRI revealed a well-defined left retroperitoneal mass (3.7 cm) separated from the left adrenal gland with features of pheochromocytoma. Workup for other adrenal hormones excess including cortisol, aldosterone, and androgens was normal. In preparation for surgical excision, the patient was started on prazosin, (an alpha blocker), then beta blocker was added to control her BP adequately. The patient was put on high salt diet with adequate hydration to avoid intravascular volume depletion. Then, robotic resection of the mass was performed with providing a good post-operative hydration. Histopathology showed features of pheochromocytoma with capsular invasion. Repeated MRI head showed resolution of the PRES features. The patient was discharged in a good condition. Her BP was well controlled on much lower doses of anti-hypertension medications. Biochemical testing for catecholamines was normal and referral for genetic testing was requested.

This is the first case to be reported of PRES as an initial presentation of an adult patient with a retroperitoneal paraganglioma. Catecholamines excess needs to be considered in the differential diagnosis of patients presenting with PRES.

Title: Incidental finding of coexistent papillary thyroid carcinoma and squamous cell carcinoma of tongue; report of a case

Authors: W Gul*, M Zirie*, H Gharib**

Department: *Endocrinology Hamad General Hospital, Qatar, **Mayo Clinic College of Medicine, Rochester, MN

Objective/Learning Point:

To report the incidental finding of metastatic papillary thyroid cancer [PTC] in the lymph node specimen during surgical resection and staging workup of squamous cell carcinoma [SCC] of tongue.

Case Presentation

A 42 years old male presented with painful non-healing ulcer on left posterolateral side of the tongue. Clinical examination revealed 2x2cm ulcer with indurated base. Punch biopsy and histopathology of the lesion was suggestive of moderately differentiated SCC. MRI tongue showed neoplastic mass with associated cervical lymphadenopathy. PET scan revealed the same findings with uptake in bilateral submandibular, submental and parajugular lymph nodes, suggestive of possible metastasis. Patient underwent left glossectomy and lymph nodes dissection. Histopathology was consistent with moderately differentiated SCC. 1/17 lymph nodes were positive for metastatic PTC. Despite negative preoperative thyroid ultrasound, he underwent total thyroidectomy and histopathology showed pT1aN1M0 PTC. Post therapy scan after 150 mCi radioiodine showed uptake in thyroid bed and submental lymph nodes. He underwent external beam radiotherapy for SCC. He was kept on percutaneous endoscopic gastric [PEG] tube feeding allowing the time for oral wound to heal. After wound healing, PEG tube was removed and he resumed oral feed. Repeat PET scan after 1 year of treatment was unremarkable showing no evidence of PTC or SCC.

Discussion

Synchronous occurrence of primary thyroid malignancy and head and neck squamous cell carcinoma [HNSCC] is a rare condition with incidence of 0.3-1.9%. There are a few reported cases of SCC of tongue and metastatic PTC. Due to paucity of information it is not clear what is the best management strategy for metastatic PTC. Based on present case it appears that node-positive PTC has good short term prognosis. Further information is needed to elucidate the optimal management of PTC in this setting.

Title: Bilateral massive pulmonary embolism as an initial presentation of a patient with Acromegaly

Authors: W Gul, K Baagar, M Errayes, B Al Owainati

Department: Endocrinology Hamad General Hospital Qatar

Case Presentation:

21-years-old male presented with chest pain followed by syncope. He was hypotensive. ECG showed sinus tachycardia, right ventricular strain pattern. Pulmonary embolism (PE) was suspected. CT pulmonary angiogram showed bilateral massive PE requiring thrombolysis. Thrombophilia workup; Prothrombin c.*97G>A mutation, factor V Leiden mutation and lupus screen were negative. Proteins C and S activities and anti-thrombin III were normal.

He had coarse facial features with abnormally large hands and feet, so acromegaly was suspected. Insulin like growth factor-1 (IGF-1) 980mcg/l (0-400 mcg/L) and fasting GH 28.90 (0-10 n/L) were elevated. The diagnosis was confirmed by OGTT GH suppression test. MRI pituitary showed a 2.4cm well-circumscribed sellar/suprasellar mass displacing the optic chiasm. Visual perimetry showed bilateral superior temporal hemianopia more on the left side. Neurosurgery opinion was sought; it was advised to postpone the surgery as the patient required anticoagulation. Thus, octreotide and cabergoline were started. Repeated MRI showed size regression to 2.2cm. Later, trans-sphenoidal resection was carried out. After surgery, patient did well and repeated GH levels <2ng/l.

Discussion:

Acromegaly occurs due to persistent hypersecretion of GH mostly from the pituitary gland. Annual incidence is 6/million. This is a first reported case with massive bilateral PE and underlying condition was acromegaly. There was a case report describing three cases of uncontrolled acromegaly (despite treatment with multiple modalities) presenting with recurrent VTE . All of them had elevated IGF-1 levels raising the question that whether acromegaly is a hypercoagulable state. It has been suggested that elevated IGF-1 is associated with increased fibrinogen, tissue plasminogen activator and plasminogen activator inhibitor levels while decreased protein S and tissue factor plasminogen inhibitor creating a pro-thrombotic environment. However, the exact mechanism needs to be studied further.

Learning Points:

1-Association of pulmonary embolism [PE] and acromegaly

2-Acromegaly is hypercoagulable state associated with changes in changes in fibrinolytic system.

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Title: Malignant Otitis Externa – A cascade of complications culminating in a pseudoaneurysm of internal maxillary artery – A case report

Authors: H Chaudhary, Z Yousaf, I Abubeker, A Kartha, W Ibrahim

Department: Internal Medicine Hamad General Hospital Doha, Qatar

Case Report:

Malignant otitis externa (MOE) can be a life-threatening problem if not recognized and treated in a timely manner. Poor prognosis has been linked to the duration of diabetes mellitus,

presence of raised inflammatory markers (C-reactive protein and erythrocyte sedimentation rate, facial nerve palsy, age above 70 and positive CT scan. We report a case of a 59-year

-old diabetic gentleman with a background of complicated MOE with left facial palsy, skull base osteomyelitis and sigmoid sinus thrombosis who presented with massive epistaxis.

CT angiography was performed to look for the source of this massive epistaxis that revealed bilateral maxillary sinusitis with bony erosions and possible fungal infection with secondary erosion of the left internal maxillary artery and the formation of a large pseudo aneurysm which was 2.0x1.5cm and confirmed with conventional angiogram. Endovascular embolization resulted in a successful obliteration of the pseudoaneurysm. A subsequent functional endoscopic sinus surgery confirmed active co-infection by *Pseudomonas* and *Candida Glabrata* by tissue culture. Anti-coagulation was resumed after obliteration and stabilization with warfarin and patient was discharged safely on levofloxacin and caspofungin to complete a total duration of 3 months.

Pseudoaneurysms of maxillary artery are a rare complication of malignant otitis externa and usually present with life threatening epistaxis warranting prompt investigation.

These aneurysms can even be caused by non-angioinvasive fungal infections like *candida glabrata*. Obliteration of maxillary artery pseudoaneurysms can be accomplished effectively with endovascular embolization.

Title: CNS Tuberculosis – A Great Masquerader of Neurological symptoms

Authors: R Akbar, A Zafar, A Chapra

Department: Division of Internal Medicine Hamad General Hospital, Doha, Qatar

Case Report:

A 37-year-old male, without any known medical history, presented after an episode of vibratory/tingling sensations ascending gradually over his left side. It was followed by left-sided limb weakness, slurring of speech and eventually experiencing an occipital headache, lasting three hours followed by full resolution. His clinical examination was unremarkable. All laboratory investigations were normal. His urgent imaging modalities including CT Brain and MRI/MRA Brain were also normal. He was discharged with a working diagnosis of TIA versus complicated migraine.

He presented 48 hours later with identical symptoms and was discharged home with abortive treatment for migraine. Three days later he presented with another similar episode. Repeated CT Brain was normal. An EEG was done which was also unremarkable. The patient subsequently underwent a lumbar puncture to rule out HaNDL syndrome (The syndrome of transient Headache and Neurologic Deficits with cerebrospinal fluid Lymphocytosis). The CSF analysis showed lymphocytic pleocytosis with high protein and a normal glucose. Subsequent microbiological/cytological workup on the CSF including testing for TB were all negative. He received empirical treatment for bacterial meningitis. He remained asymptomatic throughout. His CSF analysis was repeated a week later to assess treatment response which showed mild reduction in the lymphocytic picture with a rise in CSF protein. His PPD test came back to be positive with a 14mm induration at 72 hours and he was discharged after initiation of anti-tuberculous therapy.

Learning Points:

1. TB meningitis is a diagnostic conundrum owing to the wide differentials it generates due to its non-specific nature of presentation requiring often unnecessary extensive workup and delay in initiation of anti-TB therapy.
2. Indications of LP in such cases (was done on second readmission, to actually rule out HaNDL syndrome).
3. Empiric Anti TB in the absence of Microbiological work up (only indirect evidence of PPD positivity).

Title: A Case Report on Bartsocas Papas Syndrome (BPS) managed in Long-Term Care Facility

Authors: W Akram, S Khan, I Badarudeen, S Valappil, H Al Hamad, M Al Obaidli

Department: Geriatrics and Longterm Care, Rumailah Hospital Doha Qatar

Introduction:

Long-Term Care Facilities (Rumailah Hospital & Enaya Specialized Care Centers) in Qatar are unique where in long-term care is provided for adults (age ranging from 18 and above) with many underlying complex illnesses with disabilities with or without learning and behavioural problems.

Case Presentation:

A 22 year old lady with multiple congenital anomalies was admitted for long-term care in September 2014. On examination, she had significant abnormalities of the face and limbs. There were distinct features such as syndactyly (webbing of the toes), ablepharia (absence of eyelids), evidence of bilateral enucleation (for previous proptosis and corneal exposure with keratoconus), alopecia, madarosis (absence of eyebrows), small dysmorphic appearing nose, bilateral cleft lip & palate, fibrous bands at lower part of the mouth (synechiae), and microstomia (Smaller than normal mouth) with absence of gums, jawbones or lips. Clinically these were all in-keeping with BPS, although this wasn't confirmed on genetic studies. It was deemed most likely to be a lethal form of popliteal pterygium syndrome (extensive web behind the knee down to heel). She was conscious, alert, blind and aphasic, but could hear and respond appropriately non-verbally for simple commands and recognise familiar voices. She was artificially fed using PEG and was wheelchair bound. In the past, she had undergone multiple facial and lower limb reconstructive surgeries.

Learning Points:

1. BPS is a rare genetic autosomal recessive disorder with severe deformities of the face and limbs.
2. Genetic abnormality is a defect of the IRF-6 (Interferon Regulatory Factor) gene.
3. There is no cure for BPS and carries extremely poor prognosis. In patients who survive, surgical options are suggested to the parents or caregivers.

Conclusions: Congenital anomalies with disabilities may have significant impact on individuals, families, health-care systems and societies. Quality of life improves with safe and effective comprehensive long-term care.

Title: A unique presentation of black pleural effusion

Authors: Z Yousaf, M Jamshaid, I Elhakeem, M Abdul Qader

Department: Internal Medicine Hamad General Hospital Doha, Qatar

Case report:

Black pleural effusion is a rare entity. It has been reported in association with Aspergillus, Metastatic melanoma, primary lung adenocarcinoma, pancreaticopleural fistula, crack-cocaine use, rheumatoid pleurisy and charcoal containing empyema.

We report a 71 years old gentleman with a remote history of anal squamous cell carcinoma, presenting with a week of right sided pleuritic type chest pain & shortness of breath with a 10Kg weight loss and intermittent low-grade fever over past 2 months. He was found to be tachypneic (respiratory rate of 24/min) & requiring 2liter oxygen. Clinical exam & Chest X-ray were consistent with right sided massive pleural effusion. Arterial blood gases showed Type II respiratory failure. He underwent thoracentesis yielding turbid yellow exudative fluid with WBC 328,mesothelial cells 93 % & cytology showing atypical cells.

The following day, patient developed worsening of his respiratory distress & was found to have a right sided iatrogenic pneumothorax. Chest tube was inserted & connected to underwater seal. CT chest 3 days onwards exhibited increased in size of his pneumothorax & enhancement around his mediastinal trachea, new pulmonary nodules and thickening of his distal esophagus.

Video-assisted thoracoscopic surgery showed a brisk air leak from deep laceration and a nodular area in the right upper lobe. Wedge resection of his right upper lobe was performed which was consistent with poorly differentiated adenocarcinoma. Immunohistochemistry raised the possibility of hepatobiliary origin. Pan CT showed an increased in CBD diameter from 9mm to 16mm.

Chest tube inserted post operatively started to drain black pleural fluid, predominantly neutrophilic exudative with WBC 1125 RBC 15375 uL & cultured positive for Klebsiella pneumonia and pseudomonas aeruginosa. He was initiated on antibiotics for empyema.

Learning points: 2 cases of poorly differentiated adenocarcinoma with a lung primary causing black pleural effusion exist. No reported case secondary to adenocarcinoma of GI origin has been previously reported, to the best of our knowledge.

Title: Bilateral Renal infarction following treatment with zolmitriptan

Authors: A Nauman, E Abuhelaiqa

Department: Nephrology - Internal Medicine Hamad Medical Corporation Doha, Qatar

Zolmitriptan is a serotonin agonists that leads to vasoconstriction of blood vessels used for the treatment of migraine headaches. Triptans have been associated with myocardial infarction and bowel ischemia, but there are scarce reports associating them with renal infarction. Here we report a case of bilateral renal infarction following treatment with Zolmitriptan.

This is a 58 year old lady history of chronic migraine presented to emergency department with flank pain and vomiting. Patient has been on zolmitriptan 2.5mg as needed for migraine headache which she reports taking frequently in past month, with last dose 3 days prior to presentation. Patient experienced sudden onset nausea and vomiting associated with sharp left flank pain. Laboratory findings were notable for normal creatinine, and negative urine studies. Lactate dehydrogenase was 1,282U/L. She received oral analgesia and IV fluids. CT imaging with IV contrast showed a wedged shape cortical swelling with reduced enhancement on right kidney. On second day with persistent pain, repeat CT revealed evolving wedged shape defect on left kidney. Patient was started on anticoagulation with LMWH and warfarin. Further imaging study did not show any evidence of embolic disease, or renal artery dissection. A small right renal artery partial defect on angiography was stented but did not alter progression of infarct. Patient was started on Topiramate and has been off Zolmitriptan with no recurrence of disease on 3 months follow up.

Renal infarction should be considered in severe flank pain with negative work up for stone and pyelonephritis. Although zolmitriptan is an effective drug to treat migraine headaches, it should be used with caution as it can potentially case renal artery vasospasm leading to acute renal infarction.

Learning Points:

1. Signs, symptoms and differential diagnosis of renal infarction
2. Causes and diagnostic work up for renal infarction
3. Triptans as potential cause of renal infarction

Title: Dysphagia in Disguise

Authors: J Sirajudeen, S Abo Saleh, F Khalil Al Ani, J Trivedi, P Shibu, V Naushad

Department: Accident and emergency Hamad general hospital Doha Qatar

Background: Mediastinal abscess is a rare presentation of infections involving mediastinum. Esophageal perforation, oro-pharyngeal infections, complication of cardio-thoracic procedures are common causes but rarely, the origin of infection cannot be identified. Current report highlights awareness about mediastinal abscess with no obvious source of infection.

Case Report: 49 yrs male with no past medical illness admitted with complaints of fever, difficulty in swallowing, retrosternal chest pain of 5 days duration. No history of foreign body ingestion. Clinical examination unremarkable except fever. Blood labs revealed leukocytosis (14.3) with neutrophilia, CRP: 352 with normal renal function tests and electrolytes. Blood cultures, sputum culture, MRSA screening, viral antigens negative. Serial ECGs and cardiac enzymes normal. Chest x ray revealed mediastinal widening. CT scan thorax showed mediastinal abscess with bilateral pleural effusion with left lung collapse. Patient underwent left minithoracotomy with drainage. It showed Loculated haemo-purulent collection in the left pleural space especially along posterior mediastinum. Pus culture grew gram positive cocci in pairs and chains. He was treated with intravenous Teicoplanin for 7 days and Piperacillin-tazobactam for 14 days. Improved clinically and discharged with oral antibiotics. Follow up CT scan after a month showed normal mediastinum.

Discussion: Mediastinal abscess is an uncommon but serious disease which if untreated can be fatal. Suspect mediastinal involvement in any febrile dysphagia. CT Imaging is mainstay for diagnosis. Surgical intervention with parenteral antibiotic remains treatment of choice. Mediastinal abscess with no obvious traceable cause of source of infection which are considered as primary or idiopathic abscess are rare and very scantily reported in literature. In our case, the site of origin of the infection unidentifiable and therefore considered a primary isolated abscess.

Learning Points:

Mediastinal abscess is very rare but a serious condition.

Suspect mediastinal involvement in any febrile dysphagia.

Title: Suspected new complication of opioid withdrawal

Authors: M Ali, A Hamad, E Alhmoud

Department: Internal Medicine Hamad Medical Corporation Doha, Qatar

Introduction:

Morphine withdrawal can present with varying symptoms and signs. We are reporting an unknown clinical complication during the withdrawal phase.

Case Report:

A 44-year-old male known to have persistent back pain treated with intrathecal morphine infusion, with a rate of 5.75 mg/day, presented with unilateral lower limb edema affecting his daily duties. After excluding common causes of unilateral edema, the intrathecal morphine infusion suspected to be the cause.

The intrathecal morphine pump was stopped and replaced by morphine 30 mg BID orally and Tramadol 50mg every 6 hours.

At the same night, the patient had six attacks of generalized tonic-clonic convulsions.

CT head was done to exclude any intracranial events and it was normal, blood electrolytes and arterial blood gases were within normal limits.

After that, the morphine regimen changed to 5mg IV every 4hr with tramadol 50mg every 6hr orally. Gradually, the patient regained his consciousness, and no more fits occurred.

Discussion:

CNS irritability is known to be one of the opioids withdrawal signs in neonates. It is accompanied by seizures in 2% to 11% of infants with opioids withdrawal.

In rats, opioid withdrawal showed to be associated with high cerebral activity.

In Adult, it is not well studied that opioids withdrawal can cause seizures. Up to our knowledge, there are two case series in which patients had the same condition.

There was no concurrent use of other substances known to cause seizures in our case. The patient was receiving an intrathecal dose of morphine which changed to inequivalent oral dose along with tramadol.

As seizure is a life-threatening condition, it is incumbent on us to report it for more studies to be done in this area and to increase the awareness about this complication.

Title: Rare Association of Bullous Pemphigoid With Renal Tumors

Authors: T Abbood, N Neffati, M Petkar

Department: Family medicine, HMC, Qatar

Introduction: Bullous pemphigoid is an uncommon autoimmune subepithelial blistering disease characterized by cutaneous bullae and erosive mucosal lesions. Multiple events, including the binding of immunoglobulins to basement membrane zone components, subsequent activation of complement, and migration of inflammatory cells into the subepithelial tissue, likely contribute to the clinical manifestations of bullous pemphigoid. It is the most common autoimmune blistering disorder in Europe. Also, it's primarily a disease of older adults; the majority of cases occur in individuals over the age of 60 years and occurrence in children is rare.

Case Presentation: In August 2017 the case had his first episode of prodromal itchiness over the body treated with antihistamine and emollients, to recur in February 2018 accompanied by erythematous urticarial like skin lesion in different body sites.

In April 2018 he was admitted twice for raised skin lesions with increased itchiness and raising creatinine, furthermore in June he was admitted twice for severe bullous eruption on trunk, abdomen, extremities, histopathology and Anti skin IgG were confirming the diagnosis of bullous pemphigoid. The patient was treated with intravenous and topical steroids.

Accidental ultrasound finding of suspicious lesion on right kidney required further workup, MRI was highly suggestive of renal cell carcinoma (papillary subtype) of the same kidney, finally MDT meeting offered nephrectomy.

Discussion: This case illustrates the rare association between renal tumors and bullous pemphigoid which should always raise the suspicion for underlying malignancy, Paraneoplastic pemphigus.

Title: A fatal variant of antiphospholipid syndrome

Authors: M Ali, S George, H Ali, H Yusuf

Department: Internal Medicine HMC Doha, Qatar

Introduction:

Catastrophic antiphospholipid syndrome "CAPS" is a rare and fatal variant of antiphospholipid syndrome.

Case Presentation:

30 years old Egyptian gentleman known hypertensive presented with 2 weeks of nausea, vomiting, abdominal pain and generalized swelling. On examination, he was febrile with generalized edema. Blood investigations revealed anemia (7.7g/dl), thrombocytopenia (94000 mm³), mild transaminitis, hyperbilirubinemia (102 umol/l) and impaired renal function (creatinine 115 umol/L). Patient remained persistently febrile with worsening renal and liver function leading to anuria requiring hemodialysis and maximal ALT 1360U/L, AST 2355 U/L and Bilirubin 293 umol/L. He had progressively worsening quadriparesis with 0/5 power in lower limbs from severe axonopathy shown in EMG. All Coagulation parameters were prolonged with elevated fibrinogen and positive Combs' test. Abdominal imaging revealed splenic infarction and Hepatic vein thrombosis. On this background, with positive ANA, anticardiolipin antibody, and negative bone marrow biopsy, patient was diagnosed with CAPS. He was managed with therapeutic anticoagulation and plasma exchange followed by intravenous immunoglobulin; pulse and maintenance methylprednisolone along with graded intensive physiotherapy. Biochemical parameters normalized over 2 months and he regained complete power of his limbs over 6 months.

Conclusions:

Definite CAPS is defined as multiorgan thrombosis, affecting minimum of three organs developing in less than a week, histopathology confirmation of small vessel occlusion in at least one organ or tissue and antiphospholipid (APL) antibodies positivity on two separate occasions, six weeks apart. However, if a patient has only three out of these four requirements, then the patient is classified as probable CAPS. CAPS has a reported mortality rate as high as 50% that decreased to 30% with treatment. This report emphasizes the importance of a high index of suspicion for the rapidly progressive nature of even "Probable CAPS" necessitating early diagnosis and aggressive treatment.

Title: Cold cellulitis - an unusual presentation of Lepromatous Leprosy

Authors: R Akbar, M Abufaied, S Al Hyassat

Department: Division of General Internal Medicine Hamad General Hospital Doha, Qatar

Introduction:

Leprosy is a chronic infection caused by the acid-fast, rod-shaped bacillus *Mycobacterium Leprae*. Leprosy primarily affects superficial tissues, especially the skin and peripheral nerves. Here we report a case of unusual presentation of leprosy.

Case report:

A 25-year-old man from Bangladesh, without any known past medical history, presented with a 3-day history of fever, chills, right ankle swelling with overlying skin changes and painless ulceration over his left ear. He denied any history of trauma or insect bite. He also complained of bilateral groin pains. He was initially managed in Emergency Department (ED) as a case of cellulitis, including an incision and drainage of the collection around ankle. He was treated with oral antibiotics and was discharged.

Seven days later, he presented to ED again with persistent fever, chills, right ankle swelling and a new progressive rash over his ankle. He was admitted to internal medicine department. The review of systems was significant for pain in bilateral knee and elbow joints.

The patient was married and denied any extra-marital sexual relationships. He worked as a construction labourer.

His laboratory investigations revealed neutrophilic leukocytosis 16×10^3 and raised C-reactive protein (CRP) 127. The work-up for different infectious aetiologies was negative including Hepatitis, HIV, Brucella and Syphilis. Autoimmune workup unremarkable.

His ankle skin biopsy revealed chronic granulomatous inflammation consistent with Lepromatous Leprosy with positive staining for *Mycobacterium Leprae*.

The patient was discharged on oral Rifampicin, Clofazimin, Dapsone and 14 days of Prednisolone.

Learning Points:

1. Significance of early diagnosis of Leprosy to prevent neuropathy-related disability and deformity.
2. Cellulitis can present in an atypical manner. In such cases, other differentials of 'cold cellulitis', like Leprosy, should be considered.
3. A patient returning to the ED with persistent/worsening symptoms despite adequate treatment warrants further work up for rare causes of infection.

Title: Atypical presentation of hemorrhagic macro-adenoma: A case report

Authors: M Siddiqui, M Mostafa, M Mohammed

Department: Internal Medicine Hamad Medical Corporation Doha, Qatar

Case Report:

We present a 68 year old gentleman with past medical history of Hypertension, Ischemic heart disease and Benign prostate hypertrophy who was referred to our hospital from a primary clinic for the evaluation of unintended weight loss of 30 kg over the past 6 months with occasional non bloody vomiting, constipation and non-specific abdominal pain associated with loss of appetite. Patient reported that apart from the aforementioned symptoms he had occasional dizziness and was doing well otherwise, his vital signs revealed orthostatic hypotension and physical exam was otherwise unremarkable in the clinic setting, he was initially worked up with basic laboratory investigations including complete blood cell counts, kidney and liver function and an electrolyte panel which was completely unremarkable, he was further worked up for malignancy including CT with contrast for Thorax, Abdomen and Pelvis which only revealed non obstructive renal calculi, GI endoscopies also were unremarkable for any suspicious lesions.

During evaluation of his dizziness, he was found to have low cortisol level which prompted further investigations revealing decreased levels of ACTH, LH, FSH, inappropriately low normal TSH with low T3 and T4 levels.

An MRI scan of the head revealed a hemorrhagic macroadenoma.

It is reasonable to conclude that the patient was having unintentional significant weight loss due to decreased oral dietary intake because of his symptoms of nausea, vomiting, abdominal pain coupled with the adverse effects of his abnormal hormonal profile which all are secondary to the hemorrhagic macroadenoma.

Learning points:

Unintentional significant weight loss secondary to a benign macroadenoma

Title: A rare cause of simultaneous bilateral spontaneous pneumothorax

Authors: M Albakri, M Hussein, M Thomas

Department: Pulmonology - Internal Medicine Hamad General Hospital Doha, Qatar

Introduction

Spontaneous pneumothorax is a disease that may cause serious respiratory distress and can be a life-threatening condition. Around 1.3% of spontaneous pneumothorax is simultaneously bilateral. Paragonimiasis is a rare cause of simultaneous bilateral spontaneous pneumothorax (SBSP). The rarity of this etiology makes the diagnosis challenging.

Case Report

A 47 years old Nepalese gentleman came to Emergency with fever, cough, progressively worsening dyspnea and pleuritic chest pain of 4 days duration. Review of systems was negative. Physical examination was positive for decreased breath sounds bilateral. Initial CXR showed bilateral hydropneumothorax. CBC showed peripheral eosinophilia $2.9 \times 10^3/\mu\text{L}$ (21.4%) with mild normocytic normochromic anemia and a CRP of 99mg/L. Septic workup and stool for ova/parasite were negative. Right-sided tube thoracostomy was done and pleural fluid analysis showed an exudative (LDH of 5145 U/L, protein 76.1 gm/L) eosinophilic (30%) pleural effusion with Lymphocytes 54% and very low glucose <0.3 mmol/L with normal pH. Connective tissue disease and HIV workup were negative. In view of persistent air leak and as part of further diagnostic workup, VATS pleurectomy and abrasion was done. Histopathology showed necrotizing granulomatous pleuritis with eosinophilic infiltration and parasite eggs within the granuloma that were birefringent when exposed to plane-polarized light – characteristic of paragonimus eggs. Detailed history thereafter revealed a history of consumption of raw crab that supported the diagnosis of pleural paragonimiasis.

Conclusions:

Paragonimiasis is a zoonotic disease caused by the trematode *Paragonimus* spp. Other common radiological findings include focal airspace consolidation and linear opacities hence often confused with tuberculosis or lung cancer. Pulmonary paragonimiasis should be considered in the differential diagnosis of spontaneous pneumothorax, eosinophilic pleural effusion especially in patients from or traveled to endemic areas, such as Korea, China, and Japan and / history of consumption of raw or poorly cooked freshwater crustaceans.

Title: Drug induced Cholestasis

Authors: A Zafar, M Bilal Jamshaid

Department: Internal Medicine Hamad General Hospital Doha Qatar

Introduction:

Drugs are an important cause of liver injury. More than 900 drugs, toxins, and herbs have been reported to cause liver injury, and drugs account for 20-40% of all instances of fulminant hepatic failure. Approximately 75% of the idiosyncratic drug reactions result in liver transplantation or death. Physicians must be vigilant in identifying drug-related liver injury because early detection can decrease the severity of hepatotoxicity if the drug is discontinued. Acute intrahepatic cholestasis is divisible into two broad categories, (1) cholestasis without hepatocellular injury (bland jaundice or pure cholestasis) and (2) cholestasis with variable hepatocyte injury

Case Report:

A 34-year-old Jordanian gentleman with past history of hidradenitis suppurativa(diagnosed recently) and known alcoholic stopped 1 and half month before the presentation, presents with one week history of yellow discoloration of skin, diarrhoea, and abdominal pain, followed by generalized itching, no fever.

Patient recently started taking a herbal preparation (LIV52 - Liver detox) 2 weeks prior to admission for body building, and he also took Augmentin 2 weeks prior to admission for an eruption of hidradenitis suppurativa. This is the patient's first such episode, no history of autoimmune disease, on examination his sclera was yellow discoloured and whole body was yellowish and hepatomegaly around 4 fingers below costal margin

On Labs: His Hb was 10.4 (microcytic hypochromic), WBC and platelets were in normal range . His bilirubin was high 686 umol/l (direct 470umol/l) ALP was high 205 (normal is up to 150), all viral serology was negative and serum IgG were 23000 mg/dl and IgG sub1 was 1660mg/dl(increase) and IgG sub 2 was 160mg/dl(less than normal) where IgG 3 and IgG4 was normal. All autoimmune work up was negative except for ANA CTD which was positive and anti-smooth muscle antibody (1:20 weak) and anti-liver kidney microsomal antibodies (1:160 weakly positive) thyroid functions were normal US Abdomen shows Liver enlarged measuring 18.5 cm in MCL diameter, with mild increase in echogenicity.

MRCP showed Hepatosplenomegaly with periportal edema and borderline sized porta-hepatis. lymph nodes. No biliary dilatation, Liver, core biopsy showed Cholestatic hepatitis with mixed inflammation including PMNs.

Case progression: patient remained in hospital for 13 days his bilirubin remains in 650 to 700umol/l range and was started on Prednisolone 30mg prednisolone. His bilirubin started to improve and then discharge on steroid with outpatient clinic follow up, steroids were tapered off in 8 weeks and patient bilirubin came back to 47umol/L.

Conclusions: Drug induced hepatitis/cholestasis is an important clinical presentation and taking recent drug history is of paramount importance on initial admission.

Title: Dumping Syndrome: case series of uncommon incidence following Laparoscopic Sleeve Gastrectomy (LSG)

Authors: T Al-Ahbab, M Elsherif, S Asal, I Mustafa, W Elhag, F Hanna

Department: Bariatric Medicine Department, Hamad General Hospital Doha Qatar

Introduction: Dumping syndrome (DS), which is categorized into “early” or “late” based on the onset of symptoms, is a clinical impediment characterized by postprandial discomfort, including nausea, abdominal pain, diarrhea, feeling hot, dizziness, syncope, hypotension, palpitations, hypoglycemia and tremors, following bariatric-surgery. The condition is well known and with increasing number of operations as a treatment for morbid obesity the situation warrants additional attention provided by healthcare professionals. Data on incidence of DS following Laparoscopic Sleeve Gastrectomy (LSG) is scarce. The majority of studies have so far focused on DS post Gastric bypass surgery.

Objectives: The purpose of this case series is to demonstrate the observation of early dumping syndrome in Qatari patients following Laparoscopic Sleeve Gastrectomy (LSG).

Results: The majority of patients had mild-moderate symptoms with only one case presenting with severe symptoms that required hospitalization (5th patient) as blood sugar was very low (36-45 mg%) with very low potassium (2-2.5 mmol). None of the five patients had any comorbidity. Of the five patients, the first 4 responded to the diet modification with 2 required adding Acarbose oral tablets to control their symptoms. The fifth patient with severe symptoms had to undergo more intense therapy to control the symptoms, including administration of intravenous fluids, electrolytes correction, Acarbose, Octreotide and symptomatic treatment for abdominal pain and nausea as well as the usual diet modification and nutritional supplement.

Conclusions: DS is a serious condition and patient education should focus on raising the awareness of potential complications. providers must have the knowledge and expertise to predict and deal with such ailment that may require medication for critical cases.

Case no.	Age (yrs.)	Gender (M/F)	Entry weight (kg)	Post-operative Symptoms
Case # 1	34	F	115	Fatigue, weakness and syncope
Case # 2	27	F	119	Mild dizziness, diarrhea and low blood sugar
Case # 3	26	F	97	Recurrent hypoglycemia, sweating, tremors, palpitations and dizziness
Case # 4	21	F	100	Significant dizziness, sweating, fatigue and low blood sugar. Patient had existing DM and HT.
Case # 5	39	F	128	Severe hypoglycemia, severe hypokalemia, fatigue, nausea, food intolerance and abdominal cramps