

# 4th Qatar Internal Medicine Conference and The Best of ACP Meeting 2017

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## ABSTRACTS



مؤسسة حمد الطبية  
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## Oral Presentations (OP) – Clinical Studies (CS)

### OP 1 – Clinical Study

**Hypoglycemia is associated mainly with non-conventional use of combined anti diabetic drugs in the PROFAST Study. A preliminary report.**

T A Elhadd, Z Dabbous, AN Elzouki, A M Saeed, G Ponirakis, R A Malik, M Bashir & A B Abu Samra.  
*Qatar Metabolic institute, Hamad Medical Corporation, Doha, Qatar.*

### OP 2 – Clinical Study

**Changes in glycemic control, biochemical and biophysical profiles of patients in the PROFAST Ramadan Study; a preliminary report.**

Z Dabbous, M Bashir, AN Elzouki, AM Saeed, KM Dukhan, G Ponirakis, AB Abou-Samra & T Elhadd.  
*Qatar Metabolic Institute, Hamad Medical Corporation, Doha, Qatar.*

### OP 3 – Clinical Study

**Nutritional status among adolescents before and after sleeve gastrectomy.**

Wahiba Elhag, Sama Abdulrazzaq, Mohammad El sheriff, Israa Mustafa.  
*Department of Bariatric Medicine, Hamad Medical Corporation, Doha, Qatar.*

### OP 4 – Clinical Study

**Eradication of Hepatitis C Infection in Kidney Transplant Recipients in Qatar.**

Mohamad Alkadi, Moutaz Derbala, Saad Al Kaabi, Jehan Mahmoud, Mona Jarman, Hassan Al-Malki.  
*Department of Nephrology, Hamad Medical Corporation, Doha, Qatar.*

### OP 5 – Clinical Study

**Assessment of Bone Mineral Disease Post Kidney Transplantation in Qatar.**

Essa Abuhelaiqa, Mohamad Alkadi, Mona Jarman, Jehan Mahmoud, Ahmad Hamdi, Adel Ashor, Awais Nauman, Muhammad Asim, Omar Fituri, and Hassan Almalki.  
*Department of Nephrology, Hamad General Hospital, Doha, Qatar.*

### OP 6 – Clinical Study

**Drug resistant Tuberculosis (TB): An experience from Qatar.**

Maisa Ali, Faraj Howady, Muna Al Muslamani, Abulatif Al Khal, Waqar Amjad, Zubaida ALSuwaidi, Hisham Ziglam.  
*Department of Medicine, Hamad General Hospital, Doha, Qatar.*

### OP 7 – Clinical Study

**Diagnostic Delay among Adults with Pulmonary Tuberculosis in a High Gross Domestic Product Per Capita Country: Reasons and Magnitude of the Problem.**

Wanis H. Ibrahim, Faraj H. Alousi, Abdulatif Al-Khal, Abdulbari Bener, Ahmed AlSalman, Aaiza Aamer, Ahmed Khaled, Tasleem Raza.  
*Department of Medicine, Hamad General Hospital, Doha, Qatar.*

### OP 8 – Clinical Study

**Tuberculous pleural effusions: Correlation of gross thoracoscopic findings with histo- microbiologic findings.**

Merlin Thomas, Wanis H Ibrahim, Tasleem Raza, Shireen Omer, Kamran Mushtaq, Adeel Arshad, Mushtaq Ahmed, Saber Al Sarafandi, Salma Taha, Omer Rabadi, Aisha Hussein, Hisham A Abdul-Sattar.  
*Department of Pulmonology, Hamad General Hospital, Doha, Qatar.*

### OP 9 – Clinical Study

**Epidemiology and causes of VTE at Hamad General Hospital, Qatar.**

Jessiya V Parambil, Bushra Minhas, Ahmed M Usman, Saleema C Purayil, Sadia Sajid, Ijaz Kamal.  
*Division of General Internal Medicine, Department of Medicine, Hamad General Hospital, HMC, Qatar*

## Oral Presentations (OP) – Quality Improvement & Patient Safety (QIPS)

### OP 1 – Quality Improvement & Patient Safety

#### **A retrospective study of the management of patients with asthma, at Hamad general hospital.**

Ijaz Kamal, Muhammad Aamir Waheed, Rabia Bahaudin, Nadia, Abdur Rehman.

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

### OP 2 – Quality Improvement & Patient Safety

#### **Use of Sliding Scale Insulin in Medical Patients at Hamad General Hospital - An Audit-based Study.**

Raza Ali Akbar, Jessiya Parambil, Saleema Purayil, Mohammad Abutineh, Abdul Qader.

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

### OP 3 – Quality Improvement & Patient Safety

#### **Improving Standard of Discharge Summaries: Are we communicating properly?**

Muhammad Zahid, Gowri Karuppasamy, Shaikha Al Shokri, Khaled Elfert, Khaled Al-Khodari, Khalid Ahmed, Mona Abubaker, Mohamed Sulaiman, Ahmed Osman, Ibrahim Yusuf, Kamran Mushtaq.

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

### OP 4 – Quality Improvement & Patient Safety

#### **Implementing and Evaluating Effectiveness of Shared Medical Appointments for Patients with Type II Diabetes Mellitus (T2DM).**

Silas Benjamin, Aisha S. Al-Kubaisi, Amira Ahmad; Mohammad A. Rahman, Nasseer Masoodi.

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

### OP 5 – Quality Improvement & Patient Safety

#### **Management of TIA / Minor stroke in AMAU. Are we sorting them out within 24 hours?**

Muhammad Zahid, Muhammad Naeem, Shanima K Ismail, Priyanka Mo Cackamvalli, Mohamed N Agab, Ahmed O Saleh, Aishwariya Padmakumari.

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

### OP 6 – Quality Improvement & Patient Safety

#### **Audit on driving advice to patients post stroke/TIA.**

Muhammad Naeem, Muhammad Zahid, Muhammad Aamir Waheed, Saleema Cherichi Purayil, Jessiya Veliyankodan Parambil, Phool Iqbal, Mohamed Yousif Mohamed Salih Ali, Omnia Amir Hassan Hamid.

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

### OP 7 – Quality Improvement & Patient Safety

#### **Acute Kidney Injury Are we doing right things in the first 24 hours?**

Muhammad Zahid, Amin-ur-Rehman, Mousa Hussein, Antoun Kamel, Rawan Saleh, Zaina Alamer, Aseel Sukik, Deema Alsoub, Awab Elshaikh, Ans Alamami.

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

### OP 8 – Quality Improvement & Patient Safety

#### **Rule of 15: An Ultimate Life Savior – Quality Improvement Project on Management of Hypoglycaemia at Enaya Specialized Care Center.**

Shafi Hashmath Ulla Khan, Al Anoud Ali AlFehaidi, Asma Mirghani Sayed Abbas, Lamia Rezgui, Magda El Marakby, Jacintha Lewis, Osama Elnour Abdelnour Idris, Hanadi Khamis Mubarak Alhamad.

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

#### **OP 9 – Quality Improvement & Patient Safety**

##### **Implementation of Standardized discharge protocol to improve the flow of patients in Internal Medicine Department.**

Mukesh Thakur.

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

#### **OP 10 – Quality Improvement & Patient Safety**

##### **An Audit of Length of Stay in General Internal Medicine wards at Hamad General Hospital Qatar.**

Abdulaziz Zafar, Anand Kartha, Sumaira Kanwal, Sabeen Zara.

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

#### **OP 11 – Quality Improvement & Patient Safety**

##### **Early Mobilization of Hospitalized Elderly - are we doing enough?**

Humaira Siddiqui, Kamran Mushtaq, Shanima Kodanchery Ismail, Jessiya Veliyankodan Parambil.

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

#### **OP 12 – Quality Improvement & Patient Safety**

##### **Bedside Teaching: An underutilized talent.**

Shireen Suliman, Noora Althani, Adeel Arshad, Ahmad Salim, Yousef Al Rimawi, Dabia Al Mohanadi, Ahmed Al-Mohammed, Abdel-Naser Elzouki

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

## Poster Presentations (PP) – Clinical Studies (CS)

### PP 1 – Clinical Study

**Title:** Transfer of patients from critical care areas to general medical wards: Are we doing it safely?

**Authors:** Gamal Alfitori, Mehdi Errayes, Salah Suwileh, Nadia Karim, Abdelsalam Mohamed Borham, Anas Baiou.

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

#### Background & Aims

The transfer of patient care between the critical care unit and the hospital ward is a vulnerable period in healthcare delivery. Communication breakdown during patient transfer is common and associated with medical errors<sup>2</sup>. The critical care team and the receiving ward team should take shared responsibility for the care of the patient being transferred. We examined our practice of the transfer process and determined whether it is in compliance with the available international standards.

#### Materials & Methods

We collected data of 50 patients transferred from MICU to medical wards over four months period (July to October 2016). This data was collected from electronic patients' records and nursing staff documentation. We reviewed our practice against the criteria of NICE GUIDELINE 50 "Acutely ill patients in hospital, recognition of and response to acute illness in adults in hospital" <sup>1</sup>.

#### Results

The results showed that the handover from critical care staff to ward staff (including both doctors and nursing staff) was documented in all the patients' files except in 1 (2%). We also examined the quality of handover against the NICE standards, and It was found that there was a structured handover between physicians in 38 (76%) of cases, while the nurses handover was compliant in only 17 (34%) transfers. Regarding the timing of transfer, only 2 patients (4%) were transferred at night between 22:00 to 07:00. Although, the transfer was discussed with the critical care consultant, the reason for the night transfer was not documented. Among the out of hours transfers, there was no reported deaths or readmissions to MICU till their discharge.

#### Conclusions

The findings highlight that our practice in transferring patients from the critical care area to general wards is compliant with the international standards. However, there is room for improvement in some areas such as the quality of handover.

#### References

1. NICE clinical guideline 50, Acutely ill patients in hospital: recognition of and response to acute illness in adults in hospital.
2. Li P, Stelfox HT, Ghali WA. A prospective observational study of physician handoff for intensive-care-unit-to-ward patient transfers. *Am J Med* 2011; 124:860–7. doi:10.1016/j.amjmed.2011.04.027 [PubMed].

## **PP 2 – Clinical Study**

**Title: Management of Diabetic Ketoacidosis after introduction of Local Hospital protocol in a secondary care hospital.**

Authors: Shiju Raman Unni, Salim Said Qassabi, Jeffrey Singh, Melba Sheila D'Souza, Padma Mohan. J Kurup.

Department of Internal Medicine, Alnahdha hospital, Muscat, Oman.

### **Background and Aims**

The aim was to conduct a clinical audit of the management of Diabetes ketoacidosis based on the hospital protocol in the selected secondary care hospital.

### **Materials and Methods**

Retrospective research design using electronic patient records were used in the study from 2010 to 2014 after fulfilling the sampling criteria. After obtaining an ethical approval the audit selected 49 patients among a total of 83 in patients with Diabetes ketoacidosis who fit the sampling criteria.

### **Results**

Majority of the patients were young adults between 13-30 years, who were found to have poor compliance to medications, a common precipitating cause of Diabetes ketoacidosis. The median hospital stay was three days. Intravenous 0.9% Sodium Chloride was initiated in the early first hour of diagnosis of Diabetes ketoacidosis for all patients. Readmission rate was 25%. Potassium Chloride was administered early for nine patients. Insulin commenced less than one hour for two-thirds of the total patients. Hourly blood glucose was checked for all patients. Sodium Bicarbonate and Potassium was not checked among majority of the patients. Intravenous Dextrose was given to all patients. One-third of the patients developed mild to moderate iatrogenic hypoglycaemia and a majority of the patients developed hypokalemia. There were no major complications or mortality in this sample.

### **Conclusions**

Poor adherence to the protocol like adequate monitoring of blood levels and replacement of potassium were observed. Continued medical and paramedical training is needed in dedicated areas to improve patient outcomes and reduce the length of hospital stay.

### **References**

1. Dawkins CL, Oyibo SO The management of diabetic ketoacidosis in a busy district hospital: an audit report. The Online Journal of Clinical Audits. 2012;4
2. Dave J, Chatterjee S, Davies M, Higgins K, Morjaria H, McNally P, Lawrence I, Black ledge H. Evaluation of admissions and management of diabetic ketoacidosis in a large teaching hospital. Practical Diabetes International 2004; 21:149-153.

### **PP 3 – Clinical Study**

**Title: Evaluation of renal function and Blood Pressure post kidney donation in Ahmed Gasim Heart and kidney transplant center.**

Authors: Hasan Abuaisha, Rihab Al Idrisy, Fatima Altahir Ahmad, Amal Kamil.

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

#### **Background & aims**

Kidney Transplant Donation is considered the best solution for ESRD because of its cost effectiveness and good effect on recipient's quality of life. In Sudan, kidney donation increases every year. The study is aimed to explore whether there was a change in renal functions and blood pressure in Sudanese Kidney Donors post nephrectomy or not.

#### **Materials & Methods**

The study involved 57 donors and age and sex matched potential donors from Ahmed Gasim heart and kidney transplant center. Serum creatinine and 24h urine protein were measured. The Statistical Package for Social Sciences (SPSS) version 16 was used for data analysis. Confidence interval at 95% and two tailed P values were used.

#### **Results**

The mean age of donors and controls were 35years with similar sex distribution. The mean body mass index was 24.9 for donors. The mean time since donation was 4.9years. Seventy –eight percent of donors were first degree relatives to their recipients. The mean serum creatinine was 1.1mg\dl. The mean e GFR was 86ml\min. significant differences were found between the means of serum creatinine, eGFR, 24h urine protein, and systolic blood pressure of donors and controls (p value=0.0001,0.0001. 0.012, and 0.028 respectively). The prevalence of proteinuria and hypertension were 28%, 1.7% respectively. The e GFR was inversely dependent on age.

#### **Conclusions**

This study demonstrates minor changes in the renal functions of kidney donors in relation to matched controls. These changes most probably reflect the presence of a single kidney and therefore a reduced eGFR and relative hyperfiltration. No case of significant deterioration of renal functions was noted in 57 live-related kidney donors.

#### **References**

1. Ochwila A, Kayima J, Mcligeyo S, Were S. Renal function of living donors at Kenyatta National Hospital Nairobi-Kenya. ISOR-JDMS[internet].2014;13, (8):51-61. Available from: [www.iosrjournals.org](http://www.iosrjournals.org).
2. Gossman J, Wilhelm A, Kachela H, Jordanc J, Sann U, Geiger H. Long term consequences of live kidney donation follow up in 93% living kidney donors in a single transplant centre. American journal of transplant[internet]2005;5:2417-2414.available from: [www.pubmed.com](http://www.pubmed.com). doi: 10.1111/j.1600.

## PP 4 – Clinical Study

**Title: Characteristics and outcome of cerebral venous sinus thrombosis in Qatar: A four-year hospital-based study from 2008 to 2011.**

Authors: Mushtak Talib Algherbawe, Fahmi Yousef Khan, Salma Suliman Abonof, Hussien Kamal Muhammad Bakhtyar Khan, Abdul-Naser Elzouki.

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

### Background & aims

Cerebral venous sinus thrombosis (CVST) is associated with serious morbidity and mortality, however there is lack of information regarding this topic in Qatar. This study aimed to analyze the characteristics of patients with cerebral venous sinus thrombosis (clinical features, predisposing factors) in a series of 43 in-patients at Hamad general hospital.

### Materials & Methods

We conducted a retrospective study including 43 patients with confirmed diagnosis of CVST, admitted at Hamad Hospital, Doha, Qatar, between January 1, 2008, and December 30, 2011.

### Results

We identified 43 patients with CVST, the mean age of the patients was  $34.3 \pm 12.3$  years (range: 17–82 years). There were 29/43 (67.4%) males and 14/43 (32.6%) females. The most frequent predisposing factor of CVST was local infection in 13/43 (30.2%), the mean duration of symptoms before presentation was  $7.7 \pm 9.5$  days (range: 1–42 days), and the most common presenting symptom was headache found in 41 (95.3%) patients with the superior sagittal sinus being involved most frequently in 36 (83.7%) patients. The case fatality rate was 4.6%.

### Conclusions

In our hospital CVST affects males more than females, with infection being the main predisposing factor and mortality of 4.6%. Further prospective studies are needed to explain the predominance of infection as a predisposing factor.

### References

1. Dash D, Prasad K, Joseph L. Cerebral venous thrombosis: An Indian perspective. *Neurol India* 2015;63:318-28
2. Yadollahikhaless G, Borhani-Haghighi A, Safari A, Wasay M, Edgell R. Cerebral Venous Sinus Thrombosis. *GMJ*.2016;5(Supp.1):48-61

## PP 5 – Clinical Study

**Title: Evaluate the efficacy of pneumococcal vaccine in immunized population two years before and after immunization regarding hospitalization and ICU admission due to respiratory tract infection.**

Authors: Rana Moustafa Ahmed Houssam, Zainab Jassim, Hani Abdel Aziz, Dina Elgaily.

Clinical Pharmacy Department, Hamad General Hospital, Qatar.

### Background and Aims

Pneumococcal vaccine is recommended for high risk populations as elderly, young, and those with underlying health problems. More than 90% of pneumococcal infections can be prevented by a single pneumococcal vaccine, which protects against 23 different types of streptococcus pneumonia bacteria. The aim of this study is to evaluate the effectiveness of pneumococcal vaccine against Intensive Care Unit (ICU) and medical ward (MW) admissions owing to pneumonia post vaccination.

### Material and Methods

Retrospective observational study included 379 patients, aged  $\geq 18$  years who received the pneumococcal vaccine between June 2012 to June 2013. files were reviewed for respiratory tract infections (RTI) required admission to MW or ICU 2 years before and 2 years after vaccination. Patient's medical records reviewed for demographics, co-morbidities, microbiological laboratory data, X-rays, respiratory panel and empirical antibiotics treatment. The primary outcome is to evaluate the rate of hospitalization. Secondary outcomes included the evaluation of the efficacy of pneumococcal vaccine in different comorbidities.

### Results

- 161 patients were included, age group (64-85) 52%. was dominant in the study, more than one third of them were Qataris
- 70% were hypertensive, 57% diabetic, 44% asthmatic and 27% had CKD. No significant association between rate of hospitalization and co-morbidities
- Rate of hospitalization due to RTI was significantly reduced within 2 years after vaccination 71% to 39 % ( $P < 0.05$ )
- ICU admission trend to decrease after vaccination ( $P > 0.05$ )
- Within diabetic and HTN patients the difference between pre-and post-vaccination in Hospital, ICU admissions and outpatient management were significant.
- COPD/Asthma there was a difference in Hospital, ICU admissions and outpatient management (75% to 36.1%  $P < 0.05$ , 11.1% to 8.3% and 45.1% to 44.4%)

### Conclusions

Pneumococcal vaccine decreased hospital admissions in regard to the RTI cases. Further studies are needed to assess such findings especially, ICU admission.

### References

None

## PP 6 – Clinical Study

**Title: The efficacy of Dapagliflozin as a novel oral antihyperglycemic drug in treatment of type 2 diabetes mellitus patients.**

Authors: Rana Moustafa, Zainab Jassim, Dina El Gaili.

Clinical Pharmacy Department, Hamad General Hospital, Qatar.

### Background and Aims

Type 2 diabetes mellitus (T2DM) is a highly prevalent disease affecting millions of patients worldwide. The search for new antidiabetic drugs with innovative mechanisms continues. Dapagliflozin is a second agent in a new class of oral antihyperglycemic drugs; the sodium-glucose cotransporter 2 (SGLT2) inhibitors. This study aimed to evaluate the efficacy of new oral antihyperglycemic drug Dapagliflozin in the treatment of type 2 DM as monotherapy or combination with other hypoglycemic agents.

### Materials and Method

All patients treated with Dapagliflozin in HGH since its introduction as nonformulary medication on 1st April 2013 until 30th April 2015 were included. Data regarding prescribed drugs were obtained from the computerized pharmacy system. Demographic information and laboratory results of patients have been achieved from the patient's electronic system (CERNER).

### Results

- 81 patients were identified to receive Dapagliflozin during the study period, 71 % of them were males, 100 % were Qataris with mean age  $57 \pm 9$  and mean A1c baseline  $9 \pm 1.4$
- Dapagliflozin as add-on therapy was found to decrease A1c significantly after 6 months by -0.8 ( $P=0.006$ ) and after 12 months by -1.5 ( $P=0.062$ )
- The fasting blood was significantly reduced at 6 months and 9 months ( $P= 0.001$ ,  $P=0.03$  respectively)
- There was no significant association between different co-administered antidiabetic medication and reduction in A1c or FBG

### Conclusions

Dapagliflozin significantly reduced HbA1c level of type 2 diabetic patients in combination of other OHA or insulin within 6 to 12 months of treatment

### References

1. Liang Y, Arakawa K, Ueta K Et al. Effect of Canagliflozin on Renal Threshold for Glucose, Glycemia, and Body Weight in Normal and Diabetic Animal Models. PLoS ONE 7(2), e30555 (2012)
2. Nyirjesy P, Zhao Y, Ways K, Usiskin K. Evaluation of vulvovaginal symptoms and Candida colonization in women with type 2 diabetes mellitus treated with canagliflozin, a sodium glucose co-transporter 2 inhibitor. Curr. Med. Res. Opin. 28(7), 1173–1178 (2012).

## PP 7 – Clinical Study

**Title: The efficacy of Sofosbuvir in Hepatitis C patients in a tertiary teaching hospital in Qatar.**

Authors: Rana Moustafa, Zainab Jassim, Dina Elgaily, Rizwan.

Clinical Pharmacy Department, Hamad General Hospital, Qatar.

### Background

Hepatitis C viral (is a widely prevalent disease, with extensive burden. The conventional HCV treatment has limitations and complications limiting its beneficial utilization. The new emerging direct antiviral agents (DAA) are very promising in the management of HCV. Sofosbuvir, one of the new DAA which is approved for treatment of chronic HCV, has been introduced in HMC as non-formulary medication in Aug 2014. However, its role in treatment of chronic HCV in all genotypes in patients with or without cirrhosis, need to be assessed and evaluated

### Materials & Methods

This is a retrospective observational, included all patients who received Sofosbuvair treatment from HGH pharmacy in the period Jan 2014 to Jan 2015. The observation Period was up to 12 weeks after the treatement course completion. Information about the medications, demographic data and laboratory investigations were obtained from the electronic patients' record (CERNER).

### Results

- 95 patients received either Sofosbuvir alone or in combination with another antiviral.
- 60 % of the relapsed group were females, 100 % Qataris, 40 % with genotype 1a, 80 % were previously treated, 50 % had cirrhosis ( $P < 0.05$ )
- All HCV genotypes included; 1a and 4 were the most predominant (37 % and 30.5 %)
- 50 % were treatment naïve.
- 19 % had liver cirrhosis, 9.5 % liver transplant and 1.1 % HCC.
- 93 % received adjuvant therapy
- 100 % achieved zero virus RNA starting from week 8 of treatment.
- SVR12 was maintained in 95 % of patients.
- The relapse rate was 40% for 1a and 20% for 1b, 2 and 4 ( $P > 0.05$ )
- Patients with genotype 3 none of them relapsed.

### Conclusions

The SVR12 post Sofosbuvir treatment was maintained in most patients, regardless of genotype, complications of HCV or co-administered drugs.

### References

1. Lawitz E, Lalezari JP, Hassanein T, et al. Sofosbuvir in combination with peginterferon alfa-2a and ribavirin for non-cirrhotic, treatment-naïve patients with genotypes 1, 2, and 3 hepatitis C infection: a randomised, double-blind, phase 2 trial. *Lancet Infect Dis* 2013; 13:401
2. Lawitz E, Mangia A, Wyles D, et al. Sofosbuvir for previously untreated chronic hepatitis C infection. *N Engl J Med* 2013; 368:1878.

## PP 8 – Clinical Study

### **Title: Clinicopathologic risk score correlation with Oncotype DX.**

Authors: Farouq Salih, Salha Bujassoum, Kakil Rasul, Mufid Elmistiri, Nabil Elhadi, Hafez Gazouani, Francois Calaud.

Medical Oncology, National Center for Cancer Care & Research, Hamad Medical Corporation, Doha, Qatar.

### **Background**

Oncotype DX, a clinically validated test that estimates the recurrence and predicts the likelihood of benefit from adjuvant chemotherapy in early ER positive, node negative breast cancer, it is calculated based on characteristics of 21 genes that define the ER status, Her2 neu status, tumor proliferation, and tumor invasion. NCCN guidelines recommends adjuvant endocrine therapy for low RS (<18)) and systemic chemotherapy for high RS (>30), but no clear consensus about chemotherapy in moderate RS (18-30)

### **Aims**

To look for Oncotype Dx correlation, with clinicopathologic risk factors (age, tumor size, tumor grade, ER/PR status, Her2 status, tumor proliferation index) and effect on chemotherapy

### **Materials & Methods**

Retrospective records review of 48 patients who had Oncotype DX test during 2013-2016 in National Cancer Center–Qatar were reviewed retrospectively, we analysed the correlation of RS to clinicopathologic factors and chemotherapy (univariate and multivariate analysis).

### **Results**

Of 48 patients studied 62.5% had low RS, 29.2% had intermediate RS, and only 8.3% had high RS.

Univariate analysis showed no significant correlation with age or tumor size. Low RS patients are more likely to have low grade (G1\G2) tumor. It is noticed that 63.6% of tumor with grade 1\2 lie within low risk group rather than moderate RS group (31.8%) or high RS group 4.5% (LR 7.3 P = 0.026). Low RS patients are more likely to express both estrogen and progesterone receptors (LR 7.9 P = 0.019) and tend to have low proliferative index (70% of patient with Ki67  $\leq$ 20 % fall into low risk category compared to intermediate and high RS (P value 0.001). 75 % of patient who received chemotherapy had intermediate/high RS, while 25% of them had low RS (P =0.003)

In multivariate analysis however, only age (OR 7.6 95% CI1.1-52.85) and chemotherapy treatment (OR 26.6 95% CI 3.1-230.41) significantly correlated with the Oncotype RS.

### **Conclusions**

Oncotype RS correlates significantly with grade, Ki67%, ER+\PR+ status, and chemotherapy. The surprising correlation of age with RS in the multivariate analysis might be due to hidden association of age with certain clinicopathologic factors

### **References**

1. ASCO 2016, NCCN guidelines

## **PP 9 – Clinical Study**

**Title: Former Instructions and Perceptions on Professionalism Among Trainees in a Multicultural Medical Academic Institution in Qatar.**

Authors: Abdel Naser Elzouki, Amal Khidir, Khalid Alyafei, Ahmed Al Hammadi, Magda Wagdy, Abdul-Latif Alkhal.

Department of Medicine, Hamad Medical Corporation, Doha, Qatar.

### **Background & Aims**

HMC is a highly dense multi-cultural Academic Health Centre, which recruits faculty and trainees from different cultural and medical education background. The purpose of the study was to evaluate the trainees': a) exposure to teaching, b) perception, c) interest to learn and the preferred methods and d) interest to receive feedback and how frequent, of professionalism in a multicultural medical academic institution in Qatar.

### **Methods**

All enrolled trainees (575, residents and fellows) at HMC in the academic year 2012-2013, were surveyed. This included all the trainees in the hospital who are from 17 disciplines. They were invited to complete an 11-question survey before they attend the one-day mandatory professionalism course. A total of 12 courses were instructed to accommodate the total number of trainees.

### **Results**

459 trainees from >27 different nationalities and >28 medical schools completed the survey, response rate 80%. They were 56% males and 44% females. Overall 75% of participants expressed lack of professionalism teaching in their undergraduate study. Responsibility, respect, honesty and confidentiality were perceived as highly important physician attribute in work place compared to, altruism, compassion, interpersonal competence and team-work. Positive role model and regular professionalism workshops during their training were perceived as the most useful methods for learning about professionalism. Nearly 85% of responders liked to be evaluated and receive monthly feedback on their professionalism behavior during their training.

### **Conclusions**

Although the perceptions of the studied multicultural group of trainees about the important physician attributes were sound and reasonable still there is clearly a lack of formal professionalism teaching in their undergraduate education. Their interest to receive teaching might help in changing minds and behaviors upon the delivery of a culturally adapted curriculum and the development of the assessment tools. The enthusiasm to be evaluated and receive feedback will further inform the faculty development curriculum.

### **References**

None

## PP 10 – Clinical Study

**Title: Medical Thoracoscopy for Exudative Pleural Effusion: An Eight-Year Experience from a Country with a Young Population.**

Authors: Merlin Thomas, Wanis H Ibrahim, Tasleem Raza, Kamran Mushtaq, Adeel Arshad, Mushtaq Ahmed, Saber Al Sarafandi, Salma Taha, Hanfa Karim, Hisham A Abdul-Sattar.

Department of Pulmonology, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

With the exception of areas with high prevalence of tuberculosis, medical thoracoscopy is becoming the diagnostic modality of choice for exudative pleural effusions. The aims of this study were to determine the diagnostic yield and safety of medical thoracoscopy for exudative pleural effusions and ascertain the etiology of such effusions in Qatar.

### Methods

This is a retrospective-descriptive study of 407 patients who underwent diagnostic medical thoracoscopy for exudative pleural effusions from January, 2008 till December, 2015 at the only tertiary referral center performing this procedure in Qatar.

### Results

Tuberculosis was the most common etiology of exudative pleural effusions in Qatar accounting for 84.5% of all causes. Around 85% of patients were young males (mean age of  $33 \pm 12.1$  years). The diagnostic yield of medical thoracoscopy for tuberculous pleural effusion was 91.4%. Malignant pleural effusions accounted for 5.2% of cases. Minor bleeding occurred in 1.2% of cases with no procedure-related mortality observed.

### Conclusions

Medical thoracoscopy is a very safe procedure. Tuberculous pleuritis is by far the most common etiology of exudative pleural effusions in Qatar. Closed needle biopsy is a worth consideration as an initial safe, easy and low-cost diagnostic modality for exudative pleural effusions in this country.

### References

1. Valsecchi A, Arondi S and Marchetti G. Medical thoracoscopy: Analysis on diagnostic yield through 30 years of experience. *Ann Thorac Med*. 2016 Jul-Sep; 11(3):177-82.
2. Diacon AH, Van de Wal BW, Wyser C, Smedema JP, Bezuidenhout J, Bolliger CT, et al. Diagnostic tools in tuberculous pleurisy: a direct comparative study. *Eur Respir J* 2003; 22:589-91.

Table 1: Demographic characteristics of the study subjects

Characteristic	n (%)
Mean age	33.3 $\pm$ 12.1
Gender (n = 407)	
Male	357 (87.7)
Female	50 (12.3)
Ethnicity (n = 407)	
Indian Sub-continent	295 (72.5)

Philippines	29 (7.1)
Middle east	35 (8.6)
African	36 (8.8 )
Others*	12 (3)
<b>Occupation (n = 325)</b>	
Unskilled	197 (48)
Semiskilled	76 (19)
Skilled	31 (8)
Others **	21 (5)

**Table 2:** Etiology of Exudative effusions (n = 401)

<b>Etiology</b>	<b>n (%)</b>
Tuberculous pleural effusions	344 (84.5)
Para-pneumonic effusions	22 (5.4)
Malignant Effusions	21 (5.2)
Metastatic Pulmonary Adenocarcinoma	8 (38)
Metastatic Breast carcinoma	4 (19)
Lymphoma	4 (19)
Malignant mesothelioma	3 (14)
Malignant epithelial neoplasm	1 (5)
Squamous cell carcinoma Lung	1 (5)
Idiopathic	12 (2.9)
Others*	3 (0.7)

\*Others –Inflammatory (2) Lymphangioleiomyomatosis (1)  
6 patients were lost to follow up

## **PP 11 – Clinical Study**

**Title: Somatic survival of ventilator supported brain dead patients in Qatar- an observational study.**

Authors: Saibu George, Merlin Thomas, Wanis H. Ibrahim, Ahmed Abdussalam, Prem Chandra, Husain Shabbir Ali and Tasleem Raza.

Department of Medical Intensive Care, Hamad General Hospital, Doha, Qatar.

### **Background and Aims**

The Qatari law, as in many other countries, uses brain death as the main criteria for organ donation and cessation of medical support. By contrast, most of the public in Qatar do not agree with the limitation or withdrawal of medical care until the time of cardiac death. The current study aims to examine the duration of somatic survival after brain death, organ donation rate in brain-dead patients as well as review the underlying etiologies and level of support provided in the state of Qatar.

### **Materials & Methods**

This is a retrospective study of all patients diagnosed with brain death over a 10-year period conducted at the largest tertiary center in Qatar (Hamad General Hospital).

### **Results**

Among the 53 patients who were diagnosed with brain death during the study period, the median and mean somatic survivals of brain-dead patients in the current study were 3 and 4.5 days respectively. (Fig 1) The most common etiology was intracranial hemorrhage (45.3%) followed by ischemic stroke (17%). Ischemic stroke patients had a median survival of 11 days. Organ donation was accepted by only two families (6.6%) of the 30 brain dead patients deemed suitable for organ donation.

### **Conclusions**

The average somatic survival of brain-dead patients is less than one week irrespective of supportive measures provided. Organ donation rate was extremely low among brain-dead patients in Qatar. Improved public education may lead to significant improvement in resource utilization as well as organ transplant donors and should be a major target area of future health care policies.

### **References**

1. Bernat JL. Ethical issues in the perioperative management of neurologic patients. *Neurol Clin.* 2004; 22(2):viii–ix, 457–71.
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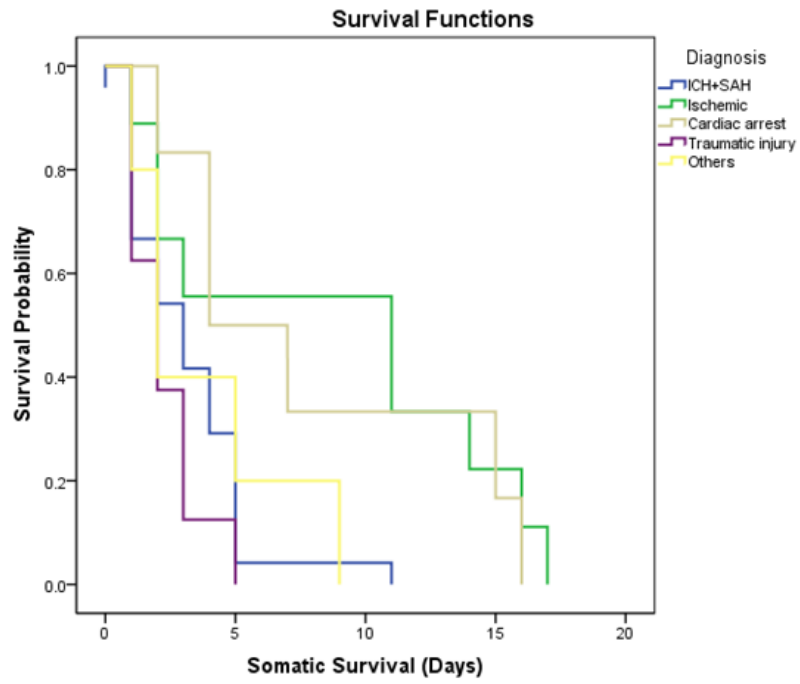


Fig1. Somatic survival after brain death

## **PP 12 – Clinical Study**

**Title: A pilot study on long-stay patients in acute medical wards at Hamad General Hospital.**

Authors: Mashuk Uddin, Mohammed Khalid Ahmed Sharif, Hasan Hani Al-battah, Humaira Siddiqui.

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

### **Background**

Long stay patients requiring continuing care in Acute Medical wards are costly, challenging and required multiple agencies and specialty involvement.

### **Materials & Methods**

Long stay patients were defined as; patients staying in hospital more than 30 days. Patients electronic records were analyzed by the specialist Physicians and relevant data were collected, during January 2017.

### **Results**

42 patients were audited. Median age of patients was 72 years (range 16 to 93 years). Median length of stay 633 days (range 68 to 2417days). 52% male.83% Qatari, 5% Iranian, 5% Palestinians and 7% other nationalities. Diagnoses are 43% anoxic brain injury, 21% neuromuscular disorder, cerebral palsy and intracerebral bleed, 7% septic shock, 28% has other disorders. 69% of patients had 4 or more comorbidities, 31% had 2 or more comorbidities, and 97 % patients on 4 or more medications. Reason for Hospital stay 74% family choice, 26% no alternative available.83% patients had DNR order in place. Incidence of complications while in hospital, 31(74%) had hospital acquired infections, 23(55%) grows multi drug resistance organisms. 7 (13%) develop pressure ulcers and 16(38%) other complications. 7% of patients were seen by the physicians monthly, 62% were seen fortnightly, 21% weekly and 9% daily. 83% patients required high intensity nursing care, 37(88%) either on Nasogastric or PEG Feeding, 35(83%) had Tracheostomy, 20(47%) on Ventilators, 6(14%) patients on Dialysis.

### **Conclusions**

Patients with stable medical conditions who required long term continuing care are staying in acute medical wards longer than needed. There is a high incidence of hospital acquired complications, some of which is preventable. Majority of patients require high intensity nursing care which may be challenging to provide in acute medical settings. Only few patients requiring daily medical review.

### **References**

1. National Framework for NHS Continuing health care and NHS funded Nursing care, Nov 2012, Department of Health, UK.
2. National Framework for Children and young people's continuing care, March 2010, department of Health, UK.

## **PP 13 – Clinical Study**

**Title: Effect of prospective improvement trial to reduce the Incidence of Peritonitis in Peritoneal Dialysis Population.**

**Authors:** Mohamed Amin, Fadwa Al Ali, Abdulla Hamad, Tariq Fouda, Rania Ibrahim, Hanaa Hamdy, Ahlam Bushara, Sahar Aly, Vimala K Lonappan.

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

### **Background & Aims**

Peritonitis is one of the major complications in patients on peritoneal dialysis (PD). Peritonitis carries high morbidity and mortality and it is one of the leading causes for loss of peritoneal dialysis modality. As well as its health implication it carries an economic burden of increasing hospitalization. At our center we have 180 PD patients and over the period of 6 months (May to October 2016) the incidence of PD peritonitis was average 4% . With this high incidence we decided to run a prospective improvement trial to reduce the incidence of peritonitis.

### **Materials & Methods**

Survey was conducted to identify the causes of peritonitis. we undertook root cause analysis for each case of peritonitis in the 6 months preceding the trial to identify any predisposing risk factors. Based on the above data we created a PD check list of the procedure during the monthly follow up visits and re-training of the patients at each of the monthly visit. Moreover we applied regular home visit assessments and questionnaire taking to evaluate the environmental situations and daily practice. All aspects of the trial were planned and drawn by Multidisciplinary team (MDT) which included PD nurses and medical team.

### **Results**

After intervention for 3 months, we reduced the peritonitis rate to zero by end of December, reduced the admission related to peritonitis and thus reduced the treatment cost in peritoneal dialysis population the current peritonitis ratio is 1:48 at the center.

### **Conclusions**

In this prospective trial we have demonstrated that the incidence of PD peritonitis can be significantly reduced by having an MDT approach and monthly retraining of patients. Although there is medical and economical benefit, there is some cost implication for the monthly retraining. More work is needed to establish what would be the safest and most cost-effective frequency of training.

### **References**

1. ISPD peritonitis recommendations: 2016 update on prevention & treatment .retrieved October 5, 2016 from <http://www.PDIConnect.com>. Hamad Medical Corporation policy and Protocol CL 6020 Piraino B, Bernardini J, Brown E, et al.; ISPD. Position statement on reducing the risk of peritoneal dialysis related infections. Perit Dial Int.2011; 31.

## **PP 14 – Clinical Study**

**Title: Randomized Controlled Trial of Taurolidine Citrate versus Taurolidine Urokinase Lock to Prevent Tunnelled Catheter Thrombosis in Hemodialysis Patients: Cost Analysis and Effectiveness Study.**

**Authors:** Tarek Fouda, Mohamed Amin, Abdullah Hamad, Rania Ibrahim, Hoda A/Hamid, Hicham Bouanane, Mincy Mathew, Sabah Khalifa, Farrukh Ali, Fadwa S. Al-Ali.

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

### **Background & Aims**

Catheter malfunction is a frequent complication. In a recent trial, we found benefit of using Taurolidine citrate with Urokinase (T/U) versus Taurolidine Citrate with Heparin (T/Hep) in decreasing catheter thrombosis and infection. We are presenting a cost effectiveness analysis of the trial.

### **Materials & Methods**

In a prospective randomized controlled trial in Qatar. HD patients received T/Hep or T/U catheter locks and followed for 6 months. We analyzed incremental cost. The cost was calculated based on actual purchasing price for our hospital for T/Hep, T/U and rt-PA. Hospitalization and procedure costs estimated from hospital billing department.

### **Results**

There were 93 patients in T/Hep and 84 in the T/U. Total 7 catheters were removed in T/Hep versus 1 only in T/U. Rt-PA use was lower in T/U than T/Hep. Cost for T/U lock was significantly higher than T/Hep (80800 US\$ versus 61700 US\$ p value < 0.05). Cost difference was eliminated when adding additional costs of hospitalizations, catheter removal procedure and rt-PA (total cost was 82000 US\$ in T/Hep versus 84720 US\$ in T/U).

### **Conclusions**

In a comparison trial where we found clinical benefit for T/U with less need for rt-PA and catheter removal compared to T/Hep, cost analysis confirmed cost effectiveness in T/U (although it is higher cost) after adding the saving of less hospitalization, less rt-PA use and catheter removal cost.

### **References**

2. Solomon LR, et al. Observational Study of Need for Thrombolytic Therapy and Incidence of Bacteremia using T Citrate Heparin, T Citrate and Heparin Catheter Locks in Patients Treated with Hemodialysis; Wiley Online Library 2012
3. Shavit L, et al: High dose urokinase for restoration of patency of occluded permanent central venous catheters in hemodialysis patients. Clin Nephrol 2010;74:297-302.

## PP 15 – Clinical Study

**Title: No evidence of increase in calcitonin concentrations or development of C-cell malignancy in response to liraglutide in the LEADER trial.**

Authors: Amin Jayyousi, Laszlo Hegedüs, Steven Sherman; R Michael Tuttle; Michael Kriegbaum Skjødt, Søren Rasmussen, Julie Derving Karsbøl, Gilbert Daniels on behalf of the LEADER Trial Steering Committee and Investigators.

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

### Background and Aims

To date, there is no evidence that liraglutide stimulates calcitonin (CT) release in humans. This secondary analysis of the LEADER trial (NCT01179048) examines the long-term CT changes in patients exposed to liraglutide vs. placebo.

### Materials and Methods

Patients (n=9340) with type 2 diabetes and high risk for cardiovascular (CV) events were randomized 1:1 to liraglutide or placebo, and followed for up to 5 years. The study investigated a composite CV outcome. We analysed: the change of CT levels over time; CT outliers; and thyroid and C-cell neoplasms.

### Results

At 36 months, patients randomized to liraglutide showed no difference in mean CT concentrations vs. patients randomized to placebo in male (estimated treatment ratio [ETR]: 1.03, 95% confidence interval [CI]: 1.00; 1.06; p=0.068) and female subgroups (ETR: 1.00, 95% CI: 0.97; 1.02; p=0.671) (Figure). In liraglutide vs. placebo groups, a similar proportion of male (24.6 vs. 23.0%) and female (5.4 vs. 4.5%) patients had a post-baseline CT concentration above the upper normal limit during the trial. No episodes of C-cell hyperplasia or medullary thyroid carcinoma were reported in patients in the liraglutide group.

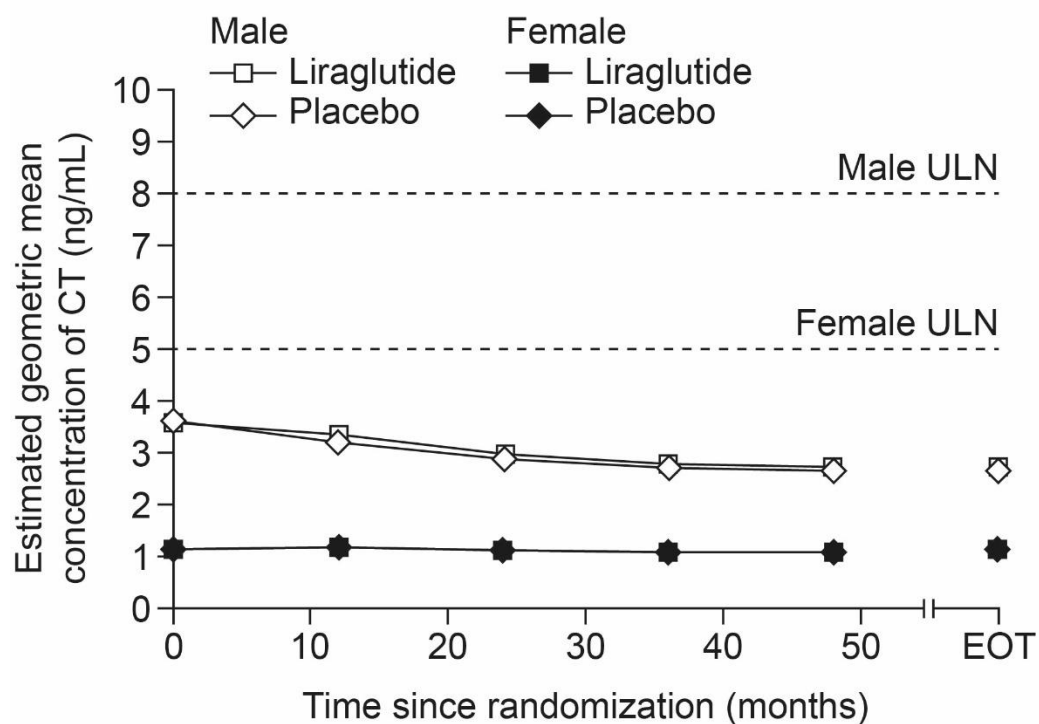
### Conclusions

There was no indication of a difference in CT concentrations between treatments and no C-cell malignancies occurred in the liraglutide group.

### References

1. Marso SP, Daniels GH, Brown-Frandsen K, Kristensen P, Mann JF, Nauck MA, Nissen SE, et al.; LEADER Steering Committee; LEADER Trial Investigators. Liraglutide and Cardiovascular Outcomes in Type 2 Diabetes. *N Engl J Med.* 2016 Jul 28;375(4):311-22. doi: 10.1056/NEJMoa1603827. Epub 2016 Jun 13.

**Figure. Calcitonin concentrations over 5 years**



Estimated geometric means, using a mixed model of repeated measures on log-transformed values from the full analysis set. Data are  $\pm$ SEM.  
 CT, calcitonin; EOT, end of trial; SEM, standard error measurement; ULN, upper limit of normal

## PP 16 – Clinical Study

**Title: Risk of major cardiovascular events in patients with type 2 diabetes with and without prior cardiovascular events: results from the LEADER trial.**

Authors: Abdel Naser Elzouki, Neil Poulter, Stephen C. Bain, John Buse, Tea Monk-Hansen, Michael Nauck, Søren Rasmussen, Richard Pratley, Bernard Zinman, David Ørsted, Steven P. Marso; on behalf of the LEADER Trial Steering Committee and Investigators.

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

### Background and Aims

The LEADER cardiovascular (CV) outcomes trial (NCT01179048) reported a 13% reduction of the primary composite CV endpoint (CV death, non-fatal myocardial infarction [MI] and non-fatal stroke) in patients with type 2 diabetes (T2D) treated with liraglutide vs. placebo, both in addition to standard of care.

### Materials and Methods

This post hoc analysis of the LEADER trial assesses the risk of CV events in patients with/without prior MI and/or stroke at baseline. 9340 patients participated in the LEADER trial. Cox proportional hazards regression analysis was used to determine the risk of the major CV outcomes.

### Results

For the subgroup of patients with prior MI and/or stroke at baseline (n=3692), there was a 16% reduced risk of the primary composite CV endpoint (hazard ratio [HR]: 0.84; 95% confidence interval [CI]: 0.72;0.97) when comparing treatment with liraglutide vs. placebo. For patients without prior MI and/or stroke at baseline (n=5648), there was an 11% reduction (HR: 0.89; 95% CI: 0.76;1.05). Risk of CV death was reduced with liraglutide in both subgroups (p-interaction=0.79). The effects on other CV endpoints were similar, showing protection for CV events with liraglutide.

### Conclusions

Liraglutide reduced the risk of the primary composite CV endpoint and other major CV events in patients with T2D, both with and without a prior history of CV events. These data suggest that liraglutide reduces CV events in both primary and secondary prevention.

### References

1. Marso SP, Daniels GH, Brown-Frandsen K, Kristensen P, Mann JF, Nauck MA, et al. LEADER Steering Committee; LEADER Trial Investigators. Liraglutide and Cardiovascular Outcomes in Type 2 Diabetes. *N Engl J Med*. 2016 Jul 28;375(4):311-22. doi: 10.1056/NEJMoa1603827. Epub 2016 Jun 13.

## PP 17 – Clinical Study

**Title: Improving Patient Experience Through Continuity of Care in Multi-Disciplinary Anticoagulation Clinic at Tertiary Care Hospital, Qatar.**

**Authors:** Mohammed A Moqeeth, Abufifeh LIA, Dwairi HD, Al-Hamoud EA, Abdulrahman AA, Al-Madhoun EA, Elzouki A-N, Masoodi NM.

Ambulatory Internal Medicine Clinic, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

- Initially Anticoagulation clinics (ACC) at Hamad General Hospital (HGH) were run by residents under the supervision of consultants. A system was followed where the patients were seen by different physician each time they visited the clinic, resulted in lack of continuity of care.
- Currently, a new collaborative model run by a multidisciplinary team (MDT) which includes clinical pharmacists, nurses, patient educator, clinical associates and internal medicine consultant proved to be advantageous by being cost effective, improve quality & resulting in better patient experience.
- Evidence shows that greater continuity is related to improved patient trust in their physician<sup>2</sup> and patient satisfaction.<sup>1,2</sup>
- The study aimed to explore the satisfaction level of patients followed up (or attending) at ACC, HGH with current care model and compare it with the previous one

### Materials and Methods

- 1) Patient satisfaction questionnaires (PSQ) are collected for patients presented to residents managed clinic between 1<sup>st</sup> July 2016 till 30<sup>th</sup> July 2016.
- 2) 2<sup>nd</sup> cycle of PSQ are collected from patients presented to Multi-disciplinary clinic between 1<sup>st</sup> Feb 2017 till 30<sup>th</sup> Feb 2017.
- 3) Survey included 14 questions
- 4) Prospective Study

### Results

The result of the patient survey shows that the patients appear to be more satisfied with the new system and its ability to provide good holistic care.

The total number of patients enrolled in the ACC patient's satisfaction survey are 64 patients, age range between 25– 81 years

### Conclusions

- Implementation of the collaborative model of ACC in the HGH out- patient department has a positive impact on patient care based on improvement of the continuity of care and the satisfaction score.
- The result can serve as benchmark for the future comparison.

### References

1. Nutting PA, Goodwin MA, Flocke SA, Zyzanski SJ, Stange KC. Continuity of primary care: to whom does it matter and when *Ann Fam Med*. 2003;1:149–55.
2. Wasson JH, Sauvigne AE, Mogielnicki RP, et al. Continuity of outpatient medical care in elderly men. A randomized trial. *JAMA*. 1984;252:2413–7.

## **PP 18 – Clinical Study**

**Title: Effects of procalcitonin-guided treatment on antibiotic use and need for mechanical ventilation in patients with acute asthma exacerbation: Meta-analysis of randomized controlled trials.**

**Authors:** Wanis H Ibrahim, Kamran Mushtaq, Tasleem Raza, Anand Kartha, Ahmed O Saleh, Rayaz A Malik.

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

### **Background and Aims**

The primary outcome was to determine whether serum procalcitonin-guided antibiotic therapy can reduce antibiotic exposure in patients with an acute exacerbation of asthma presenting to the primary care facility, emergency department or during hospital admission. The secondary outcome was the need for mechanical ventilation.

### **Materials and Methods**

In this meta-analysis, we performed extensive literature search for randomized controlled clinical trials (published in English) that compared serum procalcitonin-guided antibiotic therapy versus antibiotic use according to physician's discretion for adult participants with mild, moderate or severe acute asthma exacerbations.

### **Results**

Four randomized controlled trials evaluating 457 patients were included in this meta-analysis with significant homogeneity observed among these studies. Procalcitonin-based protocols decreased antibiotic prescriptions (Relative risk 0.58, 95% CI, 0.50-0.67) without altering the risk of need for mechanical ventilation (Relative risk 1.10, 95% CI, 0.62-1.94). The quality of evidence in these studies was limited by the lack of double blindness and the overall small number of participants.

### **Conclusions**

Our meta-analysis suggests a potential benefit for the use of serum procalcitonin in guiding antibiotic therapy in patients with an acute asthma exacerbation and advocates the need for more randomized controlled trials.

### **References**

1. Long W, Li LJ, Huang GZ, et al. Procalcitonin guidance for reduction of antibiotic use in patients hospitalized with severe acute exacerbations of asthma: a randomized controlled study with 12-month follow-up. *Crit Care*. 2014; 18:471.
2. Tang J, Long W, Yan L, et al. Procalcitonin guided antibiotic therapy of acute exacerbations of asthma: a randomized controlled trial. *BMC Infect Dis* 2013, 13:596

## **PP 19 – Clinical Study**

**Title: Does hemodialysis impact motor-performance beyond of diabetes and peripheral neuropathy? – Objective assessment of gait and balance using wearable technology in a hemodialysis clinic.**

**Authors:** Abdullah Hamad, N. Siddiqi, H. Zhou, Fadwa Al-Ali, Rania Ibrahim, T. Talal, B. Najafi.

Baylor College of Medicine, Houston, USA, & Department of Nephrology, Hamad Medical Corporation, Doha, Qatar.

### **Background & Aims**

Poor motor-performance is a serious problem for older adults undergoing hemodialysis (HD) treatment. Little is known about how HD impacts gait and balance. In this study, we used wearable sensors to objectively examine the impact of HD on gait and balance compared to healthy controls (HC) and diabetic patients with Peripheral Neuropathy (DPN).

### **Materials & Methods**

33 eligible subjects (age=66+6years, body mass index=31+7kg/m<sup>2</sup>, male=58%) in 3 age-matched groups were recruited: 11 undergoing HD treatment, 11 with DPN not requiring HD and 11 HC. Single task walking (ST), dual task waking (DT), and double stance balance under eyes open (EO) and eyes closed (EC) conditions were measured.

### **Results**

The HD group had the worst gait performance compared to other groups, which reached statistical significant level after adjusting for demographic information. Highest effect size (ES) to discriminate between HD and DPN as well as between HD and HC, was ST stride velocity ( $d=4.825$ ,  $p<0.001$  and  $d=7.361$ ,  $p<0.001$ ). The HD group had the worst balance performance of all groups. Between-group differences of ankle sway and hip sway under both EO and EC conditions, reached statistical significance. The largest ES to discriminate between HD and DPN groups as well as between the HD and HC, occurred at EO hip sway ( $d=1.692$ ,  $p<0.001$ ) and EC hip sway ( $d=1.868$ ,  $p<0.001$ ).

### **Conclusions**

Results demonstrated HD patients have significantly poorer gait and balance, even when compared to DPN patients. Poor balance and gait reduce the ability of HD patients to be active, which in turn may impact the outcomes.

### **References**

None

## PP 20 – Clinical Study

**Title:** Long term effect of bariatric surgery on thyroxine dose requirement for hypothyroid obese patients.

**Authors:** Mohammed Elshiref, Wahiba Elhag, Sama Abdulrazzaq, Israa Jined, Walid Ansari.

Department of Bariatric Medicine, Hamad Medical Corporation, Doha, Qatar.

### Background

Hypothyroidism causes weight increase with decrease in basal metabolic rate and thermogenesis. Influence of bariatric surgery on these hormones within their normal levels were investigated, though a very scanty published data explored this effect on clinically hypothyroid patients.

### Aims

To assess the influence of bariatric surgery on thyroid hormone levels and on thyroxine requirement in clinically hypothyroid obese patients. Find a correlation between patients' initial BMI, weight loss (BMI and % excess weight loss) and thyroid status.

### Materials & Methods

A retrospective review of 158 morbidly obese hypothyroid patients on thyroxine who underwent laparoscopic sleeve gastrectomy (LSG), gastric bypass (RYGB) and laparoscopic gastric greater curvature plication (LGGCP) (2011-2015), were evaluated for changes in TSH and free thyroxine at 6, 12 and 24 months post operatively. Dose of thyroxine and weight loss were correlated.

### Results

Mean age =38.7 years. Mean preoperative BMI was 45.8, which decreased at 2 years to 33. About 85.4% of patients underwent LSG, 12% RYGB and 2.5% LGGCP. EWL% at 6, 12, 24 months was 27.6%, 53.4% and 58.8% respectively. Their mean pre-op thyroxine dose of 102.7 mcg dropped to 68.4 mcg at 24 months after surgery. 42.5% of patients had improved thyroid status at 6 months, 8.2% were cured and 2.2% deteriorated. Out of 67 patients whose thyroid status improved, 82% underwent LSG, 16.4% RYGB and 1.5% LGGCP.

### Conclusions

Bariatric surgery is an effective surgical procedure that leads to improvement of thyroid function in hypothyroid patients, Reduction of levothyroxine dose needed to treat hypothyroidism is expected to happen after bariatric surgery with laparoscopic sleeve gastrectomy being the favourable curative procedure.

### References

1. Chikunguwo S1, Brethauer S, Nirujogi V, Pitt T, Udomsawaengsup S, Chand B, Schauer P. Influence of obesity and surgical weight loss on thyroid hormone levels. Surg Obes Relat Dis. 2007 Nov-Dec;3(6):631-5
2. S. Aggarwal, S. Modi, T. Jose Laparoscopic Sleeve Gastrectomy Leads to Reduction in Thyroxine Requirement in Morbidly Obese Patients With Hypothyroidism. World Journal of Surgery October 2014

## PP 21 – Clinical Study

**Title: Pulmonary Hypertension Induced by Thalidomide (and Derivatives) in Patients with Multiple Myeloma: A Systematic Review.**

**Authors:** Abdulqadir J. Nashwan, Nader I. Al-Dewik Hisham M. Al Sabah, Mohamed A. Yassin, Shehab F. Mohamed, Nabil H. Omar, Dana B. Mansour.

Department of Hematology, National Center for Cancer Care & Research, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

Thalidomide is widely used in the treatment of multiple myeloma (MM). In recent years, several cases of pulmonary hypertension have been reported following treatment with thalidomide. The aim of this review was to evaluate the published literature on multiple myeloma patients with pulmonary hypertension following thalidomide treatment.

### Materials and Methods

A literature search was performed between 2000 and 2016. A total of 7 eligible studies were identified and deemed eligible, including 11 cases.

### Results

Approximately 37% (4 cases) with IgA (k), 27% (3 cases) with IgG (λ) MM, 27% (3 cases) with IgG (k) MM, and one case (9%) with primary plasma cell leukemia (PPCL).

The vast majority of cases - 82% (9 cases) - are associated with thalidomide, while only 18% (2 cases) are related to thalidomide derivatives (lenalidomide and pomalidomide).

### Conclusions

Pulmonary hypertension induced by thalidomide or derivatives in multiple myeloma (MM) patients is related to a multifactorial etiology including the pathophysiology of the disease, thromboembolic events, pre-existed cardiovascular conditions, comorbidities, and combination with other chemo- or bio-therapeutic agents. MM patients should be evaluated for signs and symptoms underlying cardiopulmonary disease before initiating, and during treatment with thalidomide.

### References

1. McLaughlin, V.V. and McGoon, M.D. (2006) Pulmonary Arterial Hypertension. *Circulation*, 114, 1417-1431. <https://doi.org/10.1161/CIRCULATIONAHA.104.503540>
2. Yuan, J.X.L. and Rubin, L.J. (2005) Pathogenesis of Pulmonary Arterial Hypertension: The Need for Multiple Hits. *Circulation*, 111, 534-538.

## **PP 22 – Clinical Study**

**Title: Racial differences and Clinical characteristics of patients with sarcoidosis, study at Hamad General Hospital, a tertiary care hospital of Qatar.**

**Authors:** Ijaz Kamal, Muhammad Aamir Waheed, Aziz Khan.

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

### **Background & Aims**

Sarcoidosis is prevalent worldwide with significant heterogeneity across different ethnic groups. In a setting with a population as diverse as Qatar, little is known about the existing patients with sarcoidosis. Our study aims to assess the clinical characteristics, presentation and severity of disease among various ethnic groups.

### **Materials & Methods**

This study is a retrospective chart review study. All confirmed cases of sarcoidosis in Qatar are included in the study. Data was obtained from patients file through Cerner with a predesign questionnaire.

### **Results**

Total no of patients is 47. Fifty percent of sarcoidosis patients are males and 50 percent females. Mean age of patients is 53 years. The commonest ethnic groups are Indian (31%) and Qatari (18 %) other ethnic group like Pakistani, Egyptians, Sri Lankan, Kuwaiti, Romanian, comprises around 6 percent of the patients .6% of the patient are current smokers while majority are non-smoker (75 %). 37.5 percent of the patients had biopsy proven disease. In rest of the patients the diagnosis was made on clinical grounds. Most of the patient has stage I and stage II disease (23% and 50 % respectively).25 % of patients had joint symptoms, erythema nodosum and uveitis were present in 18 % of patients. Liver function test are normal in 93%. Serum calcium is elevated in 19% of patients (Mean 2.70). All patients were treated with steroids with mean duration of 8 months.

### **Conclusions**

This study gives us an idea about the management of sarcoidosis which need some improvement. The findings of the study correlate with the diversity of population of Qatar. It is equally distributed in males and females unlike other parts of the world where there is a female preponderance. More than 60 percent of patients do not have biopsy which is higher than other parts of the world. All the patients were treated with steroids.

### **References**

1. Rybicki BA , Maliarik MJ , Major M , Popovich J Jr , Iannuzzi MC  
Seminars in Respiratory Infections. Epidemiology, demographics, and genetics of sarcoidosis01 Sep 1998, 13(3):166-173.
2. J Gribbin, R B Hubbard, I Le Jeune, C J P Smith, J West, L J Tata Incidence and mortality of idiopathic pulmonary fibrosis and sarcoidosis in the UK *bmj* Volume 61, Issue 11.

## PP 23 – Clinical Study

**Title: Nutritional and metabolic status of 96 adolescent patients before and 1 year after sleeve gastrectomy - evidence from Qatar.**

Authors: Sama Abdulrazzaq, Wahiba Elhag, Ali Saad, Mohammed Shiref, Israa Mustafa.

Department of Bariatric Medicine, Hamad Medical Corporation, Doha, Qatar.

### Background

Adolescent's obesity is a prevalent serious health problem. Although obesity is associated with high caloric intake, nutritional deficiencies have existed in morbidly obese adolescents. Consumption of high calorie- dense poor-quality food could be responsible.

Recently, Sleeve gastrectomy (SG) has emerged as an effective procedure treating obesity in adolescents. Favorable metabolic outcome and safety profiles are comparable with adult findings. However, few studies have addressed the nutritional and metabolic status of adolescents before and after bariatric surgery.

### Aims

Assess the nutritional status of obese adolescents before and one year after SG at Hamad general hospital.

### Materials & Methods

A retrospective review of 96 obese adolescents who underwent SG during 2011-2014 was evaluated for the prevalence of macro and micronutrient deficiencies prior to SG, and one year after. Evaluation included albumin, iron, folic acid, vitamin B12, vitamin D, calcium, copper, magnesium and zinc. We also measured hemoglobin and Parathyroid hormone.

### Results

Sample age mean was 15.9 years (52% males and 44% females).

Preoperatively: Mean pre-operative Body mass index (BMI) 46 kg/m<sup>2</sup>. 55.1% were anemic, 11.5% and 6% had low serum iron and vitamin B12 respectively. 98.6% had Low vitamin D, 2.7% had hypocalcemia. Hypomagnesaemia was evident in 3.4%. Hyperparathyroidism in 60% and 5.5% had hypoalbuminemia. no deficiencies of copper, zinc and folic acid.

Postoperatively (1 year): Mean BMI reduced to 28 kg/m<sup>2</sup>. 54.7% were anemic, 7.1% had low iron. Vitamin B12 and vitamin D deficiencies occurred in 20% and 89.1% respectively. Hypocalcemia found in 2.4%, and Parathormone was elevated in 30%. 7.1% and 12.5% had low zinc and copper levels respectively. 14% had hypoalbuminemia. No folic acid or magnesium deficiency post operatively.

### Conclusions

Some nutritional deficiencies and metabolic abnormalities already existed in small proportions of adolescents seeking surgery. However, a non-significant worsening of these nutritional deficiencies one year postoperatively.

SG is a safe procedure for treatment of adolescents' obesity, however nutritional and metabolic surveillance both pre & post operatively required to prevent potential deficiencies.

### References

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## PP 24 – Clinical Study

**Title: Effects of Anti-Obesity Medications Lorcaserin versus Phentermine on Weight Parameters and Cardiovascular risk factors.**

Authors: Sama Abdulrazzaq, Wahiba Elhag, Mohammed Shiref, Israa Mustafa, Alyaa Ali.

Department of Bariatric Medicine, Hamad Medical Corporation, Doha, Qatar.

### Background & Aims

Obesity has cardio metabolic consequences. Weight loss can improve the obesity-associated comorbidities. We assessed efficacy, safety, and improvement of comorbidities of anti-obesity medication Lorcaserin compared with older medication Phentermine.

### Materials & Methods

This retrospective comparative study (3-month duration) comprised 60 obese patients (22% were diabetics, 19% hypertensive, 37% were dyslipidemic). The sample comprised Lorcaserin (30 patients, 27 females) and Phentermine (30 patients, 28 females) groups. There were no differences between groups' baseline characteristics. Patient data included age, weight, BMI, comorbidities (type 2 diabetes, hypertension, dyslipidemia), diabetes lab results (HbA1c, fasting blood sugar), lipid profile (total cholesterol, HDL, LDL, TG), and side effects mentioned by patients. Baseline data (before medication) and after 3 months medication were compared across the medications using T- test.

### Results

At baseline, mean age, weight and BMI respectively were 43.2 years, 94.97 kg, 37.35 (Lorcaserin); and 45.3 years, 98.14 kg, 39.24 (Phentermine). At 3 months, mean  $\Delta$ weight,  $\Delta$ BMI, and TWL % respectively were 7.05 kg, 2.78 and 6.77% (Lorcaserin); 13.5 kg, 4.47 and 15.13% (Phentermine). Seven Lorcaserin patients gained weight; and 5 Phentermine patients gained weight.

As for diabetes, for both groups, HbA1c and fasting blood sugar were slightly but not statistically significantly reduced. For lipids (total cholesterol, HDL, LDL, TG), there were nonsignificant minimal/nil decreases among Lorcaserin patients; but for Phentermine, total cholesterol, LDL and TG all significantly decreased, while HDL significantly increased. Two Lorcaserin patients had side effects (1 blurred vision, 1 dizziness); whilst 7 Phentermine patients had complaints (2 insomnia, 2 constipation, 2 palpitations and 1 headache).

### Conclusions

Phentermine patients lost more weight than Lorcaserin patients. However, both groups did not have significant improvements/changes in their Diabetes parameters. Phentermine showed a significant improvement in lipid profile (reduced total cholesterol, LDL and TG; increased HDL) when compared with Lorcaserin. More Phentermine patients complained of side effects.

### References

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## **PP 25 – Clinical Study**

**Title: A multisource assessment of the efficacy of combined cell transplantation and rehabilitation for Parkinson's disease.**

Authors: Leila Karimi, Steve Polgar.

Department of Public Health, La Trobe University, Melbourne, Australia.

### **Background and Aims**

Evidence from a growing number of preclinical studies indicates that recently discovered stem cell lines maybe translated into viable cellular therapies for people with Parkinson's disease (PD). In this critical review, we examine the use of primary and secondary outcome measures currently utilised to evaluate the efficacy of cellular therapies.

### **Materials and Methods**

Building on the previous studies and theoretical backgrounds, a multisource assessment protocol was proposed for this study.

### **Results & Conclusions**

We conclude that the current practice of relying on a single primary outcome measure does not provide valid evidence for the robust, life-changing recovery anticipated with the implementation of cellular therapies. We advocate for an approach which includes the collection of alternative data regarding the actions and experiences of people undergoing cellular therapies. The multisource assessment protocol will provide the evidence required for developing and evaluating a comprehensive program which integrates cell transplantation with neurorehabilitation to actualise the potential benefits of stem cells.

### **References**

None

## PP 26 – Clinical Study

**Title: Efficacy and Safety of Monotherapy versus Combination Anti-Obesity Medications in Qatar.**

Authors: Isra Elgenaied, Mohamed Elsherif, Sama Abdulrazzag, Wahiba Elhag, Walid El Ansari.

Department of Bariatric Medicine and Surgery, Hamad Medical Corporation, Doha, Qatar.

### Background & Aims

Management of obesity is a challenge. Medical weight management aims to achieve 5-10% weight reduction. Despite the range of anti-obesity medications, the efficacy and safety of monotherapy versus combination medications is sparse. limited data from the Eastern Mediterranean Region.

### Materials & Methods

Retrospective review of 73 patients attending HMC clinics. Inclusion criteria: age (20-67y); and, BMI > 27 ± comorbidities. Patients categorized in 4 groups, based on treatment with weight loss agents (Phentermine, 28 patients; Phentermine+Topamax, 16 patients; Orlistat, 9 patients; Orlistat+Topamax, 20 patients). We assessed efficacy (weight loss at 3 months) and safety (medications' side effects) of monotherapy (Phentermine or Orlistat) versus combination (Phentermine+Topamax or Orlistat+Topamax).

### Results

76.7% were females: mean age, baseline weight and BMI 42.7±10.9y, 100.85±23.62 kg and 38.56±8.02 kg/m<sup>2</sup> respectively. In terms of efficacy, sample's mean weight and TWL% were 98.62±22.33kg and 15.86% ±16.23%, respectively. Phentermine+Topamax and Phentermine achieved highest weight reductions (P = 0.001).

66.6% of Phentermine+Topamax patients achieved >20% weight loss (mean TWL%33.02±16.15%), followed by 52.9% of Phentermine patients who achieved >20% weight loss (mean TWL% 23.94±19.14%). 36% of Orlistat+Topamax patients achieved 5-10% weight loss (mean TWL% for whole Orlistat+Topamax sample 8.28%±6.68 kg).

71.4% of Orlistat patients achieved <5% weight reduction (mean TWL% 4.52±4.18%).

In terms of safety, ten (62.5%) Phentermine+Topamax patients had side effects: 4 had numbness, 2 drowsiness, 2 constipation, 1 dry mouth, 1 insomnia. Five (25%) Orlistat+Topamax patients had side effects: 1 had diarrhea, 1 drowsiness, 1 insomnia, 1 constipation, 1 numbness. Five (17.8%) Phentermine patients side effects: 2 had palpitation, 1 insomnia, 1 dizziness, 1 drowsiness. Orlistat patients had no side effects.

### Conclusions

Obese /overweight patients on anti-obesity medications achieved mean of >10% weight loss at 3 months (15.8%). Phentermine +Topamax and Phentermine patients had highest percentage of weight loss.

Numbness was the highest side effect noted in phentermine +Topamax group.

### References

1. WHO Obesity and overweight WHO. [cited 2015 Oct 20]. Available <http://www.who.int/mediacentre/factsheets/fs311/en/>
2. Kumar RB, Aronne LJ. Efficacy comparison of medications approved for chronic weight management. *Obesity*. 2015 Apr 1;23:S4–7.
3. Moldovan CP, Weldon AJ, Daher NS, Schneider LE, Bellinger DL, Berk LS, et al. Effects of a meal replacement system alone or in combination with phentermine on weight loss and food cravings. *Obes Silver Spring Md*. 2016 Nov;24(11):2344–50.

## PP 27 – Clinical Study

### Title: Blood Glucose Control for Patients with Acute Coronary Syndromes in Qatar.

Authors: Kyle John Wilby, Eman Elmekaty, Ibtihal Abdallah, Masa Habra, Khalid Al-Siyabi.

Communicable Disease Center, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

Blood glucose is known to be elevated in patients presenting with acute coronary syndromes (ACS). However, gap in knowledge exists regarding effective management strategies once admitted to acute care units. It is also unknown what factors predict elevated glucose values during initial presentation. The objectives of the study were to characterize blood glucose control in patients admitted to cardiac care unit (CCU) in Qatar and to determine predictive factors associated with high glucose levels (>10 mmol/l) on admission to CCU.

### Materials & Methods

A retrospective chart review was completed for patients admitted to CCU at Heart Hospital in Qatar from October 1st, 2012 to March 31st, 2013, of which 283 were included. Baseline characteristics, capillary and lab blood glucose measurements, and insulin use were extracted. Time spent in glucose ranges of <4, 4–<8, 8–≤10, and >10 mmol/l was calculated manually. Univariate and multivariate logistic regression were performed to assess factors associated with high glucose on admission. The primary analysis was completed with capillary data and sensitivity analysis was completed using laboratory data.

### Results

Capillary blood glucose data showed majority of time was spent in the range >10 mmol/l (41.95%), followed by 4–<8 mmol/l (35.44%), then 8–≤10 mmol/l (21.45%), and finally <4 mmol/l (1.16%). As a sensitivity analysis, laboratory data showed very similar findings. Diabetes, hypertension, and non-smoker status predicted glucose values >10 mmol/l on admission ( $p<0.05$ ) in univariate analysis but only diabetes remained significant in multivariate model (OR 23.3; 95%CI, 11.5–47.3).

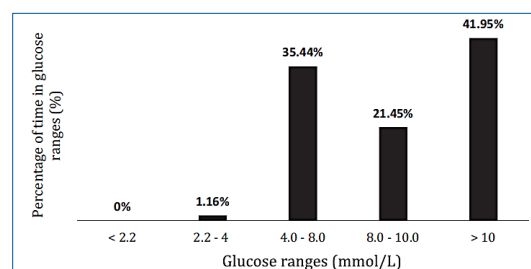


Figure 1 Time spent in glucose ranges based on capillary data.

### Conclusions

Diabetes predicts high glucose values on hospital admission for patients with ACS and patients are not being adequately controlled throughout CCU stay.

### References

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2. Goyal A, Mehta SR, Díaz R, et al. Differential clinical outcomes associated with hypoglycemia and hyperglycemia in acute myocardial infarction. *Circulation*. 2009 Dec 15;120(24):2429-37

**Title: Therapeutic Drug Monitoring of Voriconazole in the Management of Invasive Fungal Infections: A Critical Review.**

Authors: Hazem Elewa, Eman El-Mekaty, Ahmed El-Bardissy, Mary H. H. Ensom, Kyle John Wilby.

Communicable Disease Center, Hamad Medical Corporation, Doha, Qatar.

**Background and Aims**

Voriconazole is highly efficacious agent in patients with invasive fungal infections. Efficacy of voriconazole in these patients is critical to ensure positive outcomes, whereas the main limitation is the risk of adverse events such as hepatotoxicity and neurotoxicity. As such, therapeutic drug monitoring (TDM) has been suggested to optimize efficacy and safety. The aim of this review was to summarize evidence from primary literature that assessed TDM outcomes for voriconazole as well as evaluate the association between CYP2C19 polymorphism and voriconazole clinical outcomes.

**Materials & Methods**

Five databases were screened for articles describing associations between voriconazole concentrations and clinical outcomes. Articles were selected for evaluation if they reported associations between voriconazole concentrations (trough or other) with clinical outcomes in adult patients. Two investigators performed the literature search and assessed articles for inclusion. Trough concentrations were the primary target for the review and results were interpreted based on these findings.

**Results**

Findings showed associations for both efficacy and safety outcomes with measurement of drug concentrations, yet exact targets or thresholds remain unclear. Studies that evaluated the effect of CYP2C19 genetic polymorphism on clinical outcomes found no significant relationship between CYP2C19 genotype and hepatotoxicity. These negative findings may be due to lack of power, use of phenotypes not well-defined, and the presence of other interacting factors that may impact voriconazole pharmacokinetics.

**Conclusions**

Voriconazole TDM may have a place in therapy, especially for patients not responding to therapy or those experiencing adverse reactions. The use of CYP2C19 genotyping in guiding voriconazole dose selection is not recommended as there is no clear evidence on its association with clinical outcomes.

**References**

1. Kofla G, Ruhnke M. Voriconazole: review of a broad spectrum triazole antifungal agent. *Expert Opin Pharmacother.* 2005;6(7):1215–29.
2. Pfaller MA, Diekema DJ, Rex JH, et al. Correlation of MIC with outcome for *Candida* species tested against voriconazole: analysis and proposal for interpretive breakpoints. *J Clin Microbiol.* 2006;44(3):819–26.

## **PP 29 – Clinical Study**

**Title: Improving procedural competencies by Point of Care Ultrasound Training Program for Residents in Internal Medicine Department.**

Authors: Mukesh Thakur, Gamal Alfitori, Ijaz Kamal, Jamal Sajid, Mohammed Ajawi.

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

### **Background**

A knowledge and skill deficit was identified regarding ultrasound marking of pleural fluid, pleural tapping and thoracentesis. This was identified through competency validation and clinical rounds.

87 residents from all 4 years were surveyed and 75 % of them admitted that they are unable to perform common diagnostic procedures independently. Among these, most common procedure residents are unable to perform is ultrasound marking for pleural fluid; only 8 % admitted that they can perform it independently.

### **Aims**

To increase competency of residents (R1 to R 4) for diagnostic procedures by arranging simulation based training programs.

### **Materials and Methods**

Pilot study was performed looking at ability to use point of care ultrasound for marking pleural fluid for tapping involving 6 residents. Education was provided by level of exposure and experience of the trainee residents as simulation training, procedure room training and bedside.

### **Results**

On a scale of 0 to 3 in confidence level, the trainee's confidence levels improved from 0 (unable to use ultrasound) before training to 2 (able to use ultrasound under supervision) after training.

### **Conclusions**

Merging of experimental learning with practice is essential for the delivery of high quality patient centered care. Our goal is to contribute to this by providing evidence based point of care ultrasound training program to the internal medicine residents. Based on promising results of pilot study and evidence based guidelines, the proposal has been accepted at corporate level and program will start on larger scale from Sep 2017.

### **References**

1. Brasil. Decreto nº 80.281, 1977. Regulamenta a residência médica, cria a Comissão Nacional de Residência Médica e dá outras providências. Brasília: Diário Oficial da República Federativa do Brasil, 6/9/1977. Seção 1, pt 1, p. 11787.
2. Ramsey PG, Cardline JD, Inui TS, et al – Changes over time in the knowledge base of practice internists. JAMA 1991; 266: 1103-07

## PP 30 – Clinical Study

**Title: The hunt for the bacilli: making it simpler.**

**Authors:** Muhammad Zahid, Saleema Cherichi Purayil, Jessiya Veliyankodan Parambil, Shanima Kodanchery Ismail, Anam Miloud Abdussalam Elarabi, Ahmad A Al Bishawi, Ahmed Al-Mohammed.

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

### Background

The current standard pathway for diagnosis of pleural Tuberculosis (TB) involves demonstration of Mycobacterium Tuberculosis in pleural fluid (PF) or biopsy. It is reasonable to diagnose Pleural TB with PF lymphocytic-to-neutrophil ratio  $>0.75$  and adenosine deaminase (ADA)  $>40$  units/L in the setting of high clinical suspicion, or a caseating granuloma on pleural biopsy.

### Aims

To describe the epidemiological characteristics of patients diagnosed with pleural TB and clinical utility of the current diagnostic pathway

### Materials & Methods

This is a retrospective cohort study of 46 patients diagnosed with pleural TB at Hamad General Hospital. Data was obtained from the electronic medical records.

### Results

The mean age of the patients was 33.14. 86% were male. 66% were from the Indian subcontinent. 88% had no comorbidities. 96% had unilateral effusion and 4% had bilateral effusion. 14% had sputum AFB culture positive.

All patients had pleural fluid lymphocyte to neutrophil ratio  $>0.75$ . ADA measurement in PF is not available at Hamad General Hospital. Pleural fluid AFB smear and PCR were negative in all. AFB culture was positive in 19.5%.

92% patients underwent thoracoscopy. Median waiting time was 4 days. 20% developed hydro-pneumothorax.

Pleural biopsy AFB smear was positive in 2.1%; PCR positive in 43.4%, culture positive in 86.95%. Histopathology demonstrated granuloma in all. Biopsy result took 4.94 days on average.

Treatment was based on biopsy showing granuloma (54.2%), biopsy PCR positive (23.9%) and thoracoscopy appearance (15.2%).

Median hospital stay was 8 days.

### Conclusions

Most patients were started on Anti tuberculous treatment only after biopsy results in spite of high clinical suspicion and PF analysis. Availability of ADA test might reduce the necessity for thoracoscopy, which is associated with increased length of hospital stay and high morbidity. It may be possible to create an outpatient pathway for further necessary investigations.

### References

1. Clinical spectrum of pulmonary and pleural tuberculosis: a report of 5,480 cases  
S Aktogu, A Yorgancioglu, K Cirak, T Kose, SM Dereli; European Respiratory Journal 1996 9: 2031-2035
2. Khan et al, Disseminated Tuberculosis among Adult Patients Admitted to Hamad General Hospital, Qatar: A Five Year Hospital Based Study , Mycobact Dis 2016, 6:2

## PP 31 – Clinical Study

**Title: Within-day Variability based on 9-point Profiles Correlates with Risk of Overall and Nocturnal Hypoglycemia in Adults with Type 1 (T1D) and Type 2 Diabetes (T2D).**

Authors: Elzouki AN, Bailey TS, Bhargava A, DeVries JH, Gerety G, Gumprecht J, Lane W, Wysham C, Bak BA, Hansen CT, Philis-Tsimikas A.

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

### Background and Aims

Higher glycemic variability has previously been linked to an increased risk of hypoglycemia.

### Materials and Methods

The correlation between within-day variability, based on 9-point profiles, and hypoglycemia was investigated in two double-blind, treat-to-target, crossover trials comparing insulin degludec once daily (OD) with insulin glargine U100 OD in adults with T1D (SWITCH 1, n=501) or insulin-experienced adults with T2D (SWITCH 2, n=721).

### Results

Within-day glycemic variability was calculated as the relative fluctuation of the 9-point profile, defined through the integrated absolute distance from the mean within-day variability. Variabilities were subsequently categorized into low, medium and high tertiles based on the geometric mean. Hypoglycemia was defined as overall symptomatic (severe or blood glucose [ $<56$  mg/dL] confirmed), nocturnal symptomatic (00:01–05:59) and severe (requiring third-party assistance and confirmed by a blinded adjudication committee) events. This analysis showed that an increase in within-day variability has a significant correlation with an increasing risk of overall and nocturnal hypoglycemia (Table). However, no correlation was found for severe hypoglycemia in this dataset.

### Conclusions

Within-day glycemic variability is associated with a risk of overall and nocturnal hypoglycemia.

### References

1. Lane W, Bailey TS, Gerety G, Gumprecht J, Philis-Tsimikas A, Hansen CT, Nielsen TSS, Warren M; Effect of Insulin Degludec vs Insulin Glargine U100 on Hypoglycemia in Patients With Type 1 Diabetes: The SWITCH 1 Randomized Clinical Trial. *JAMA*. 2017 Jul 4;318(1):33-44. doi: 10.1001/jama.2017.7115.
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## **PP 32 – Clinical Study**

**Title: Reducing the peritonitis rate Among the Adult Peritoneal dialysis patients in FBJ center.**

Authors: Shaikha Al-Shokri, Mohamed Amin Elesnawi, Merlin Thomas, Ibrahim Yusuf Abubeker, Maisa Mohamed.

Department of Nephrology, Hamad Medical Corporation, Doha, Qatar.

### **Background & Aims**

Peritonitis is one of the major complications of PD patients. Peritonitis is associated with significant morbidity, catheter loss, transfer to haemodialysis, transient loss of ultrafiltration, possible permanent membrane damage, and occasionally death.

### **Materials & Methods**

Our project used PDSA quality improvement model. The project started on Oct 2016 by Analysing all patient registered in FBJ for Peritoneal PD, baseline data were collected and evaluated. Patient knowledge were assessed. Knowledge was assessed by using standard check list and Direct PD nurse observation. The intervention was educating patient regarding safe PD use, and updating the check list based on the new international guideline and focused in the domain missed by many patients. The result was assessed after 2 months of the intervention, and end point was the number of PD related peritonitis.

### **Results**

Total number of patient in the study were 187, 56 % males & 44% female patients. Top causes of visit to FBJ were 63% for Assessment, 29% PD related procedure, 4% PD related infections, 4% for training. Our study concluded that 24 % Peritonitis were due to hand hygiene, 22% were not using mask during PD, 20% were having chronic constipation. After addressing the three main causes of PD peritonitis intervention was carried by educating the patient and introducing Face mask in the check list. We have achieved 0% PD related peritonitis by December 2016 a significant drop as compared to 3.9% which was the rate of PD peritonitis in the start of the project October 2016.

### **Conclusions**

A significant improvement in reducing peritonitis in a PD patient can be achieved by following a strict protocol of PD, Frequent evaluation of a PD patient knowledge by direct observation and questionnaire, we have also concluded that wearing mask during PD have a great role in decreasing peritonitis in PD patient.

### **References**

1. Piraino B, Bernardini J, Brown E, et al. ISPD position statement on reducing the risks of peritoneal dialysis-related infections. *Perit Dial Int*. 2011;31(6):614-30.
2. Brown MC, Simpson K, Kerssens JJ, Mactier RA. Peritoneal dialysis-associated peritonitis rates and outcomes in a national cohort are not improving in the post-millennium (2000-2007). *Perit Dial Int* 2011; 31:639–50.

## PP 33 – Clinical Study

### **Title: Factors Associated with Remission of Type 2 Diabetes among Obese Adults post Sleeve Gastrectomy.**

Authors: Isra Elgenaied, Wahiba Elhag, Walid El Ansari, Sama Abdulrazeg.

Department of Bariatric Medicine, Hamad Medical Corporation, Doha, Qatar.

### **Background**

Bariatric surgery marks up as the most efficient method for obesity treatment resulting in long-term weight loss as well as achieving higher type 2 diabetes (T2D) resolution rates. Laparoscopic Sleeve gastrectomy (LSG) is becoming an increasingly popular surgical procedure among other bariatric surgery procedures producing overwhelming results. Several factors are being evaluated for its role as a predictive marker of better T2D resolution following LSG.

### **Aims**

This study aims to examine the possible associations of various pre-surgical factors with the post-surgical factors and its relationship with the resolution of T2D following LSG at one year.

### **Materials & Methods**

A total of 53 patients (BMI $\geq$ 30) with T2D who underwent LSG procedure from 2012 – 2014 was included in the study. Patients' preoperative data were collected that includes: BMI, age, T2D duration, C-peptide (basal), HbA1c (basal, 6 month and 1-year post LSG), and TBWL%. Complete resolution of T2D (HbA1c $\leq$ 6, FBS $\leq$ 100) was correlated with age, basal C-peptide, duration of T2D, pre and post LSG HbA1c, and TBWL%. All these variables were correlated at 6 month and 1 year post LSG.

### **Results**

Preoperatively, mean age = 45.9 years, mean BMI = 44.4 kg/m<sup>2</sup>, C-peptide range (1.0-10.9 ng/dl), HbA1c range = (4.7%-14.7%). Mean T2D duration 8.3 years. Basal C-peptide was not significantly correlated with HbA1c 1 year post LSG; and the complete T2D resolution was not affected by high or low basal C-peptide levels (2.9 ng/mL taken as median value of study population). T2D complete resolution at 1 year was not significantly correlated with patient's age; was negatively correlated with both the T2D duration (p = 0.051) and with pre surgery, HbA1c (p = 0.001); and positively correlated with TBWL% and EBWL% (p = 0.010).

### **Conclusions**

Preoperative C-peptide is not a predictor of T2D resolution at 1-year post LSG regardless of patient's age. Shorter T2D duration, better pre-operative diabetes control and higher TBWL% corresponded to a higher rate of complete diabetes resolution 1-year post LSG.

### **References**

1. Brethauer SA, Aminian A, Romero-Talamas H et al. Can diabetes be surgically cured? Long-term metabolic effects of bariatric surgery in obese patients with type 2 diabetes mellitus. *Ann Surg* 258(4), 628-636; discussion 636-627 (2013).
2. Wang GF, Yan YX, Xu N et al. Predictive factors of type 2 diabetes mellitus remission following bariatric surgery: a meta-analysis. *Obes Surg* 25(2), 199-208 (2015).

## **PP 34 – Clinical Study**

**Title: Vascular Access Care - it is not Just a care". A Successful Strategy to Reduce Hospitalizations Related to HD-Access Complication.**

Authors: Hany Ezzat, Hoda A/Hamid, Hicham Bouanane, Zafer Iqbal, Eiman Hamid, Shaza Elsonos, Ghalib Youssef, Mincy Mathew, Rania A/Aziz, Sahar Ismail, Aisha El-Sayed, Fadwa Al-Ali.

Department of Nephrology, Hamad Medical Corporation, Doha, Qatar

### **Background**

Fahad Bin Jassim kidney center provide hemodialysis care for 550 patients. 120 new patients started on hemodialysis in 2017, 85 % of them initiated HD through central venous catheter, and 15 % started through permanent vascular access. Hospital admissions are a marker for morbidity in HD patients and it imposes a significant burden on their quality of life, besides the increase risk of hospital acquired infections and cost of care. All types of vascular access have the potential for complications. The most frequent dialysis access complications leading to hospitalization are access-related infections, and access malfunction.

### **Aims**

Decrease the Hospital Admission related to vascular access complications by 25 % at the end of August 2017.

### **Materials & Methods**

In order to decrease the hospitalization rate & number of patients at risk, hospitalizations secondary to vascular access related diagnosis were analysed in ambulatory dialysis patients. The vascular Access Coordinators Assigned to Dialysis Facilities in order to: Assess patients vascular access status and needs, provide education to patients and dialysis staff to assure ongoing access monitoring, surveillance and care, oversee data collection and management, organize appropriate interventions in coordination with vascular surgery and follow up recommendations. Multidisciplinary collaboration among vascular surgeons, nephrologists, vascular coordinators, clinical bed management team to reduce the admission waiting time. Effective implementation of vascular access protocol in order to decrease access failure.

### **Results**

Our changes in management of vascular access complications led to a significant decrease in the number of Admission related to vascular access complication by 27 % by the end of August 2017 which exceed our target

### **Conclusions**

We were able to achieve and exceed the project target. Hospital admission was reduced after implementing the clinical practice in dialysis units

### **References**

1. KDOQI 2006 Updates Clinical Practice Guidelines and Recommendations.
2. CDC Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011
3. HMC Vascular Access Management in adult hemodialysis population CP 111.

## PP 35 – Clinical Study

**Title: Exploring the impact of liraglutide on diabetic foot ulcers on subjects with type 2 diabetes and increased risk of cardiovascular events: results from the LEADER.**

Authors: Tarek Elhadd, Ketan Dhatariya, Stephen C Bain, Richard E Pratley, John B Buse, Richard Simpson, Lise Tarnow, Michael Stellfeld, Margit Staum Kaltoft, Karen Tornøe on behalf of the LEADER Trial Steering Committee and Investigators.

Department of Endocrinology, Al Wakra Hospital, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

The risk of developing foot ulcer in people with type 2 diabetes (T2D) is increased due to various factors, including peripheral neuropathy and peripheral arterial disease. We investigated these measures with liraglutide vs placebo from the LEADER trial.

### Materials and methods

LEADER was a randomised, double-blind, international, multicentre, placebo-controlled CV outcomes trial assessing the CV and long-term safety of liraglutide up to 1.8 mg/day vs placebo, both in addition to SoC for up to 5 years, in patients with high CV risk and T2D. Information on DFU was systematically collected in LEADER. Based on this, DFU complications were assessed post-hoc by the sponsor through review of the individual cases.

### Results

Proportions of patients reporting at least one episode of DFU during LEADER were similar between patients receiving liraglutide vs placebo (3.9% vs 4.2%, HR=0.91, 95% CI [0.75-1.12] p=0.38). Among patients with DFU during LEADER, proportions reporting complications of DFU included infection, involvement of underlying structures, any amputation and peripheral revascularisation with liraglutide and placebo, respectively. Of those in need of amputation, a lower proportion of amputation of the foot, lower leg or leg was reported for liraglutide vs placebo (29.5% [13/44] vs 44.8% [30/67], p=0.01).

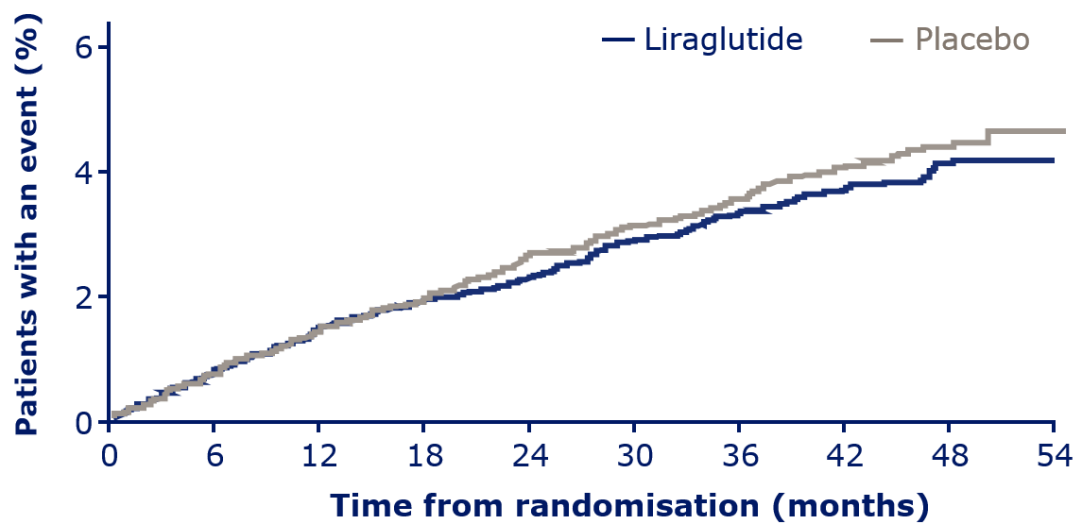
### Conclusions

These findings may suggest a reduced risk of DFU and associated complications with liraglutide vs placebo in patients with T2D and increased risk of CV events.

### References

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**Figure:** Time to first DFU among all patients in LEADER



Kaplan-Meier plot. Full analysis set. Based on MedDRA search (version 18.0) of SAEs + non-serious MESIs. DFU, diabetic foot ulcer; MedDRA, Medical Dictionary for Regulatory Activities; MESI, medical event of special interest; SAE, serious adverse event

## PP 36 – Clinical Study

### **Title: Day-to-day Variability of Fasting Self-Measured Plasma Glucose (SMPG) Correlates with Risk of Hypoglycemia in Adults with Type 1 (T1D) and Type 2 Diabetes (T2D).**

Authors: Atkin S, Bailey TS, Bhargava A, DeVries JH, Gerety G, Gumprecht J, Lane W, Wysham C, Bak BA, Hachmann-Nielsen E, Philis-Tsimikas A.

Department of Medicine, Weill Cornell Medical College, Doha, Qatar.

### **Background and Aims**

The relationship between hypoglycemia and day-to-day variability of glycemic control has not been well established.

### **Materials and Methods**

A post hoc analysis was performed correlating day-to-day variability of fasting SMPG with hypoglycemia in two double-blind, treat-to-target, crossover trials that compared insulin degludec once daily (OD) with insulin glargine U100 OD in adults with T1D (SWITCH 1, n=501) or insulin-experienced adults with T2D (SWITCH 2, n=721). Available SMPG measurements were used to determine a weekly variance for each patient, using the log SMPG values to allow for relative comparisons. For each patient and treatment, the geometric mean of the weekly variance was calculated and these values were categorized into low, medium and high tertiles as a measure for day-to-day variability. The effect of having low or high variability compared with medium variability was analyzed in relation to overall symptomatic (severe or blood glucose [ $<56$  mg/dL] confirmed), nocturnal symptomatic (00:01–05:59), and severe (requiring third-party assistance and confirmed by a blinded adjudication committee) hypoglycemia.

### **Results**

Day-to-day SMPG variability was a significant predictor for the risk of overall and nocturnal hypoglycemia in T1D and T2D, and severe hypoglycemia in T1D (Table).

### **Conclusions**

In conclusion, day-to-day glycemic variability relates to hypoglycemia risk.

### **References**

1. Lane W, Bailey TS, Gerety G, Gumprecht J, Philis-Tsimikas A, Hansen CT et al. Effect of Insulin Degludec vs Insulin Glargine U100 on Hypoglycemia in Patients With Type 1 Diabetes: The SWITCH 1 Randomized Clinical Trial. *JAMA*. 2017 Jul 4;318(1):33-44. doi: 10.1001/jama.2017.7115.
2. Wysham C, Bhargava A, Chaykin L, de la Rosa R, Handelsman Y, Troelsen LN, Kvist K, Norwood P. Effect of Insulin Degludec vs Insulin Glargine U100 on Hypoglycemia in Patients With Type 2 Diabetes: The SWITCH 2 Randomized Clinical Trial. *JAMA*. 2017 Jul 4;318(1):45-56. doi: 10.1001/jama.2017.7117.

**Table.** Effect of fasting SMPG variability on hypoglycemia in SWITCH 1 and 2: low and high tertiles compared with medium tertile

Hypoglycemia	Variability tertiles	SWITCH 1			SWITCH 2		
		Events	Estimate [95% CI]	<i>p</i> -value	Events	Estimate [95% CI]	<i>p</i> -value
Overall	Low	1113	0.71 [0.62; 0.81]	<i>p</i> <0.0001	63	0.32 [0.23; 0.45]	<i>p</i> <0.0001
	Medium	1971	1.00		199	1.00	
	High	2790	1.17 [1.05; 1.29]		587	2.25 [1.81; 2.81]	
Nocturnal	Low	129	0.40 [0.30; 0.54]	<i>p</i> <0.0001	16	0.27 [0.15; 0.48]	<i>p</i> <0.0001
	Medium	335	1.00		74	1.00	
	High	428	1.31 [1.04; 1.64]		190	2.15 [1.55; 2.98]	
Severe	Low	39	1.16 [0.68; 1.98]	<i>p</i> <0.0001	5	0.74 [0.23; 2.35]	<i>p</i> =0.1835
	Medium	34	1.00		8	1.00	
	High	130	2.52 [1.60; 3.96]		14	1.85 [0.74; 4.61]	

SWITCH 1: NCT02034513; SWITCH 2: NCT02030600  
CI, confidence interval; SMPG, self-measured plasma glucose

## PP 37 – Clinical Study

**Title: Effects of Exercise on Cancer Related Fatigue in Adults: A Literature Review and Meta-Analysis of Randomized Controlled Trials.**

Authors: Suma Vijayakumar.

National Center for Cancer Care & Research, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

Cancer related fatigue (CRF) is one of the most common and distressing symptoms experienced by cancer patients. Evidence has shown that exercise interventions are effective in decreasing the level of CRF. Aim of this review is to evaluate the evidence of the effectiveness of exercise interventions on CRF among adults with varied types of cancer in all phases of the cancer trajectory.

### Materials & Methods

A systematic review with meta-analysis was conducted. Data bases of CINHAL, MEDLINE, EMBASE, SPORT Discus, Cochrane, Middle Eastern and Central Asian Studies were searched to retrieve randomized controlled trials (RCTs). Twenty-one RCTs (n = 2108) that examined the effects of exercise on CRF were combined using two approaches: meta-analysis (n = 18) and summative analysis (n = 3). A summary effects size of the standardized mean difference (SMD) with 95% confidence intervals was calculated using random effects model and heterogeneity was assessed with the  $I^2$  statistic.

### Results

Overall, a small but significant decrease in the level of CRF (SMD, -0.32; 95% CI, -0.51 to -0.12;  $p=0.002$ ) was seen following exercise intervention. Subgroup analyses showed that both mixed modes (combination of resistance and aerobic exercises) and aerobic exercises were effective in significantly reducing CRF ( $p = .033$ ;  $p = .046$  respectively). The results indicated substantial heterogeneity between studies ( $I^2 = 79\%$ ;  $p = <.0001$ ). Summative analysis also indicated that exercise was effective in reducing CRF.

### Conclusions

This review suggests that exercise interventions in general may be beneficial in decreasing the level of CRF in cancer patients across different phases of the cancer trajectory. However, the result needs to be interpreted with caution due to considerable between-study heterogeneity.

### References

1. Berger AM, Gerber LH, Mayer DK. Cancer-related fatigue. *Cancer*. 2012; 118(S8): 2261-2269.
2. Clinical practice guidelines in oncology. National Comprehensive Care Network. [http://www.nccn.org/professionals/physician\\_gls/f\\_guidelines.asp](http://www.nccn.org/professionals/physician_gls/f_guidelines.asp). Version 1, 2014. Accessed March 1, 2015.

## **PP 38 – Clinical Study**

**Title: Assessing Physicians Knowledge and Attitude towards the Direct Oral Anticoagulants in Qatar.**

Authors: Ahmed El Bardissy, Hazem Elewa, Shaban Mohammed, Ahmed Atef, Rizwan Imanullah, Abdul Moqeeth Mohammed.

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

### **Background & Aims**

While Direct oral anticoagulants (DOACs) are being prescribed more often since their introduction to Qatar in 2011, reports on inappropriate prescribing have been observed which may indicate lack of knowledge on these new agents. We aim to evaluate the extent of the physicians' knowledge regarding the DOACs and its possible impact on physicians' confidence to prescribe these medications.

### **Materials & Methods**

A prospective cross-sectional validated survey was developed based on literature review. Eligible participants were physicians and surgeons currently practicing in Hamad Medical Corporation hospitals in Qatar. The survey included questions on demographic and professional characteristics. Also, it evaluated the awareness and attitudes regarding safety, efficacy and prescribing for the DOACs

### **Results**

We included 166 participants; internal medicine 113, other specialties 53, residents 76, fellows 38 and consultants 52. Consultants have statistically significant awareness about the less major bleeding risks of DOACs vs. Warfarin than residents (78.3% agree vs. 43.6% agree  $P=0.018$ ). Internal medicine physicians have higher awareness than other specialties regarding the efficacy of DOACs in mechanical heart valves (60% disagree vs. 16% disagree  $P=0.047$ ). About half of the physicians (63%) are not satisfied with their knowledge regarding DOACs. This may have possibly reflected the prescribing attitude of the physicians where more than 50% of the physicians prescribed DOACs for 20% of their patients

### **Conclusions**

The Knowledge of the physicians regarding the DOACs will affect their prescribing pattern and this can be improved by educational sessions which will lead to the optimum use of DOACs in Qatar, further evaluation after the educational interventions should be done

### **References**

None

## **PP 39 – Clinical Study**

### **Title: Diabetes Care as Inpatient; Lets Bundle it!**

Authors: Bushra Minhas, Seham el-ebbi, Zeinab Dabbous, Fadumo Yousaf, Nuriya Mohammad, Shireen Suliman.

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

### **Background and Aims**

Management of patients with Diabetes mellitus is a multidisciplinary approach. This involves specialist care nurse with delivery of education, trained dietician, together with physician regular monitoring of HbA1C, treatment modification, regular screening and early intervention for complications by arranging proper follow-up. The Acute Medical Assessment Unit in HGH is a busy unit with 72 hours length of stay where most patients admitted are diabetic. This can be addressed during same admission with the help of multidisciplinary teams. The aim of this study is to introduce the new Diabetes Bundle for diabetic medical inpatients admitted to AMAU and increase the percentage of its application from 0% to 30% during period of January-May, 2017.

### **Materials and Methods**

Baseline data was collected from the patients chart in the Cerner for four weeks and audited for diabetic patients admitted to AMAU. Baseline survey was conducted for the residents to identify the reasons behind non-compliance with the diabetes bundle (HbA1c within three months, dietician and diabetes educator referral (inpatient/ outpatient), medication adjustment and follow-up appointment). Educational sessions were conducted to physicians on weekly basis about the guidelines in DM management including education of referring to diabetes educator and dietician using Cerner together with Diabetes bundle reminders such as cards and posters.

### **Results**

The percentage of compliance with diabetes bundle dramatically increased from first week of intervention: (documentation of diabetes as consolidated problem increased from 50%-100%; HbA1C assessment every 3months from 75% to 87%; referrals to diabetes educator from 13% to 88%; referral to dietician increased from 1% to 56% and medication adjustment compliance from 45% to 70%). The total bundle achievement increased from 0%-77% exceeding the present target.

### **Conclusions**

Our project was an application of all necessary steps for evidence based care of diabetic inpatients that became possible through PDSA methodology in this project.

### **References**

1. IDF: global guidelines for type2 diabetes mellitus (2012).
2. CDA clinical practice guidelines expert committee, clinical practice guidelines for prevention and management of diabetes in Canada (2013).

## PP 40 – Clinical Study

### **Title: Mortality in Dialysis Patients in Qatar: A Retrospective Epidemiologic Study.**

Authors: Tarek Abdel Latif Ghonimi, Zafer Iqbal, Abdullah Hamad, Fadumo Yasin, Farrukh Ali, Rania A/Aziz, Aisha El-Sayed, Hoda Maamoun, Mohamed Amin, Saifat Khan, Hany Ezzat, Shaza Elsanosi, Mohamed, Fadwa Alali.

Department of Nephrology, Hamad Medical Corporation, Doha, Qatar.

### **Background & Aims**

Patients with end stage renal failure on dialysis have high mortality rate. Their prognosis rank between colon cancer and breast cancer. We studied mortality in dialysis patients in the State of Qatar.

### **Materials & Methods**

All chronic ambulatory patients in our dialysis facilities during the last 3 years (between 2014 to 2016) were included in the study. Patients who deceased in this time period were included in the study. Patients should be on dialysis for at least 3 months' duration.

We reviewed patient's characteristics, laboratory and diagnostic investigations for each patient through our data system, old files and through our quality unit. This retrospective study was approved by HMC IRB committee.

### **Results**

Total deceased dialysis patients were 164 between 2014-2016 (33 on peritoneal dialysis (PD) and 131 on hemodialysis (HD)). Mortality rate was 7.2% overall (4.6% in PD patients versus 8.1% in HD patients (statistically significant with p Value 0.007)).

Age was 66 +/- 11 years (66 years for HD and 65 years for PD), There were 80 males and 84 females. 130 deceased dialysis patients had diabetic mellitus (106 on HD (79.5%) and 24 PD (77%)) while 76 had cardiovascular disease (63 in HD (47%) and 13 in PD (42%)). Most common cause of death was infections in 44 patients (30.5%) followed by cardiovascular disease in 41 patients (28.5%). Vascular access in HD deceased patients were fistula in 61 patients (46.5%), graft in 12 (9.2%) and permanent catheter in 58 (44.3%).

### **Conclusions**

We are reporting the first mortality data from Qatar in dialysis patients. PD patients had a statistically significant lower mortality rate than HD (unadjusted mortality). Infections caused more deaths than cardiovascular disease. Both these results are contrary to the available international literature and further work is being done in our study to explore it.

### **References**

1. Robert N. Foley, Raymond M. Hakim: Why Is the Mortality of Dialysis Patients in the United States Much Higher than the Rest of the World? *JASN* July 2009 vol. 20 no. 71432-1435

## PP 41 – Clinical Study

**Title: Applying a successful new protocol for storing tissue plasminogen activator for locking dysfunctional permcath: a single center study.**

Authors: Mohamed Yahya, Abdullah Hamad, Tarek Ghonimi, Safatulla Khan, Sabah Khalifa, Hoda Abdelhamid, Hisham Buanan, Rania Ibrahim, Priya Helena, Fadumo. Y. Yasin, Fadwa AlAli.

Department of Nephrology, Hamad Medical Corporation, Doha, Qatar.

### Background & Aims

Thrombolytic agents are used to treat hemodialysis (HD) catheters malfunction. Although Alteplase (rt-PA) is available in 2mg vial to lock permcath, a 50mg vial is being reconstituted and stored in syringes (5mg in 5 ml) for financial saving and availability. Reconstituted rt-PA is stable only for 24 hours on 2°C which put a huge constraints on timing of use. Only one paper described using reconstituted rt-PA for up to 2 weeks at 2°C without freezing. We compared our current protocol which we use rt-PA up to 14 days after reconstitution on temperature 2°C-8°C (2W-rt-PA) to the manufacture recommendation using rt-PA within 24 hours after reconstitution on 2°C (24H-rt-PA).

### Materials & Methods

All HD patients receiving rt-PA lock were included. Phase 1 was observation for 1 month with current practice using 2W-rt-PA and phase 2 using 24H-rt-PA for 1 month. Blood flow rate (BFR) after rt-PA HD sessions and all HD sessions, Kt/v and need for rt-PA treatment for acute non-functioning catheters were monitored for both phases.

### Results

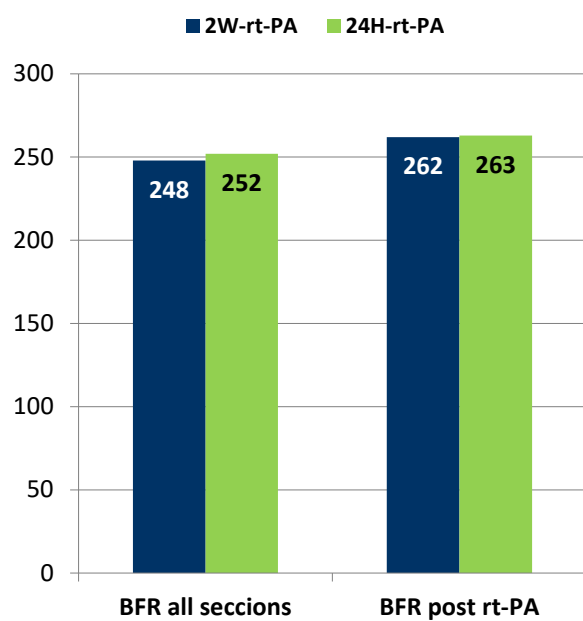
22 patients were included (14 males and 8 females). Fourteen patients were receiving rt-PA once weekly, 4 patients' twice weekly and 4 patients' 3 times weekly. In phase 1; BFR after rt-PA sessions was 252 +/-36.4 ml/min, BFR for all HD sessions was 248+/-36 ml/min and Kt/v was 1.37+/-0.2. Two patients required rt-PA treatment, one needed catheter exchange and the second patient needed 3 treatments and catheter stayed functional. In phase 2 BFR after rt-PA sessions was 253 +/-32 ml/min, BFR for all HD sessions was 252+/-30 ml/min and Kt/V was 1.4+/-0.3. Rt-PA treatment was needed in 2 patients. No statistical difference in BFR or Kt/V between 24H-rt-PA versus 2W-rt-PA.

### Conclusions

Our study showed that BFR and Kt/V were similar between 2W-rt-PA and rt-PA 24H-rt-PA. That allow storing flexibility, money saving and eliminating waste

### References

1. Davis SN, Vermeulen L, Banton J, Schwartz BS, Williams EC. Activity and dosage of alteplase dilution for clearing occlusions of venous-access devices. Am J Health Syst Pharm. 2000 Jun 1;57(11):1039-45.



## **PP 42 – Clinical Study**

**Title: Evaluation of Ergocalciferol (Vitamin D2) 50,000 units capsule versus Cholecalciferol (vitamin D3) oral drops in Long term care unit 3 in Rumailah Hospital.**

Authors: Mostafa ElAwady, Mahmoud Refaee, Mohamad Sherbash, Hanadi Khamis Al Hamad, Ameena Al-Yazeedi.

Pharmacy Department, Rumailah Hospital, Hamad Medical Corporation, Doha, Qatar.

### **Background**

There is no evidence on current practice of administering Vitamin D capsules via enteral route, with only 5% of patients achieving target 25-hydroxy vitamin D serum level (30-80 ng/mL) in Long Term Unit 3.

### **Aims**

To Increase the percentage of patients achieving target 25-hydroxy vitamin D serum level (30-80 ng/mL) in Long Term Unit 3 from 5 % to 50 % after 3-month treatment duration by 31st of August 2017.

### **Materials and Methods**

Use of Cholecalciferol drops instead of Ergocalciferol gelatinous capsules in the patients who are receiving Vitamin D via enteral route in Long Term Unit 3 and not achieving the target 25-hydroxy vitamin D serum level (30-80 ng/mL) (n=18 Patients).

Observing the 25-Hydroxyvit D serum level after 3 months treatment using Cholecalciferol drops.

### **Results**

After 3 months treatment using Cholecalciferol drops, Percentage of patients who achieved the target 25-hydroxy vitamin D serum level increased from 5% to 83 %.

Marked percentage increase in serum level in each patient with a range from 7.4% to a notably very high percentage up of 480%.

Additional statistical test (Paired t-test) is done by Stata software which showed a large significant increase in mean serum Vitamin D level with a value of [ 15.1 ng/mL, 95% CI (9.87, 20.3)] with a very significant p-value <000.1

### **Conclusions**

It can be concluded that the use of cholecalciferol drops is better than Ergocalciferol capsules to achieve the target 25-Hydroxyvit D level in patients with enteral route of administration.

### **References**

1. LexiComp, (2017). Ergocalciferol (HMC Formulary). [Online] Available at: [http://www.crlonline.com/lco/action/doc/retrieve/docid/hamad\\_f/3072426](http://www.crlonline.com/lco/action/doc/retrieve/docid/hamad_f/3072426)

## PP 43 – Clinical Study

### **Title: The Prevalence of Diabetes in Kidney Transplant Recipients in Qatar.**

Authors: Saifat Ullah Khan, Mohamad Alkadi, Ahmed Hamdi, Essa Abuhelaiqa, Omar Fituri, Muhammad Asim, Adel Ashour, Awais Nauman, Mona Jarman, Jehan Mahmoud, Hassan Al-Malki.

Department of Nephrology, Hamad Medical Corporation, Doha, Qatar.

### **Background & Aims**

Diabetes is the most common cause of chronic kidney disease. Both pre-existing diabetes and new-onset diabetes after transplantation (NODAT) contribute to the risk for cardiovascular disease and infection, reducing graft and patient survival. The aim of our study was to determine the prevalence of pre-existing diabetes and the incidence of NODAT in kidney transplant recipients living in Qatar.

### **Materials & Methods**

There were 199 adult kidney transplant patients transplanted between January 2014 and January 2017 and were followed at HMC transplant clinics. Patients were classified as having NODAT if Hemoglobin A1c (HgbA1c) was higher than 6.5% 3 months post transplantation. Diabetes was considered under control if HgbA1c was < 7.5% based on two consecutive readings at least 3 months apart per KDIGO guidelines.

### **Results**

The prevalence of pre-existing diabetes was 39% (77 out of 199 transplant recipients). The incidence of NODAT was ranging between 7-16 % per year. The mean age of patients with pre-existing diabetes and NODAT was 51.4 and 49.5 years, respectively. 68% of patients were males. 55% of patients with pre-existing diabetes were Qataris while 68% of patients with NODAT were non-Qataris. 74% of patients with pre-existing diabetes required insulin versus 12% among NODAT patients. Higher percentage of uncontrolled diabetes was found among patients with pre-existing diabetes compared to NODAT (53 % versus 12%).

### **Conclusions**

There was a high prevalence of pre-existing diabetes in our kidney transplant recipients, especially among Qataris, and half of them had uncontrolled diabetes. A stepwise approach including adjustment of immunosuppression, modification of risk factors and more collaboration with endocrinology is warranted to improve long term outcome.

### **References**

1. Davidson J, Wilkinson A, Dantal J, Dotta F, Haller H, Hernandez D, Kasiske BL, Kiberd B, Krentz A, Legendre C, Marchetti P, Markell M, van der woude FJ, Wheeler DC: New-onset diabetes after transplantation: 2003 international consensus guidelines. Proceedings of an international expert panel meeting. Barcelona, Spain, 19 February 2003. Transplantation 75[Suppl 10]: S3–S24, 2003

**Title: Stigma associated with mental illness: perspectives of university students in Qatar.**

Authors: Nawal Bensmail, Monica Zolezzi, Farah Zahrah, Salma Mawfek Khaled, Tayseer El-Gaili.

College of Pharmacy, Qatar university, Doha, Qatar.

### **Background & Aims**

Stigma is one of the main factors inhibiting people with mental illnesses from seeking help. Studies have been undertaken looking into the knowledge, attitudes, and beliefs (KAB) about mental illness among residents in Qatar; however, none have looked specifically at students in higher education. Our aim was to understand the KAB toward mental illness among students at a Qatari university and determine if there are any differences based on gender, nationality, and college type.

### **Materials & Methods**

A convenience sample of students was approached to participate in a survey that consisted of four sections: demographic, beliefs, attitudes, and help-seeking and treatment preferences associated with mental illness. Chi-square was used to test for differences in the distribution of proportions of our primary outcomes (students' beliefs, attitudes, and help-seeking and treatment preferences).

### **Results**

A total of 282 students completed the survey. Majority of the participating students were females (59.3%), non-Qataris (64.3%), and enrolled in science-based colleges (62.7%). Beliefs reflecting poor mental health literacy, such as "medications to treat mental illness can cause addiction" and "mental illness is not like any other illness" were reported by a majority of students (84.4% and 56.7% respectively). Stigmatizing attitudes that were endorsed by majority of students included believing that people with mental illness are dangerous (65.7%), and that they would not marry someone with a mental illness (88.9%). Additionally, 33.6% of students indicated they would be ashamed to mention if someone in their family or themselves, had a mental illness. The majority of students (86.3%) indicated to prefer family and friend's support as treatment options. Significant differences in KAB about mental illness between genders, colleges, and college type were found only for a few items.

### **Conclusions**

The findings suggest that a high percentage of students reported KAB about mental illness, that are considered stigmatizing.

### **References**

1. Bener A, Ghuloum S, Dafeeah E, Al-Yazidi T, Mustapha A, Zakareia A. Lifetime prevalence of common mental disorders in Qatar: Using WHO Composite International Diagnostic Interview (WHO-CIDI). *Int J Clin Psychiat Ment Health*. 2014; 2(1):38-46.
2. Thornicroft G. Stigma and discrimination limit access to mental health care. *Epidemiol Psychiatr Soc*. 2008; 17:14-19.

## PP 45 – Clinical Study

**Title:** Early responders to liraglutide 3.0 mg as adjunct to diet and exercise from the SCALE Maintenance trial.

**Authors:** Wahiba Elhag, Sean Wharton, Søren K Lilleøre, Cecilie H Jepsen, Louis Aronne.

Department of Bariatric Medicine, Hamad Medical Corporation, Doha, Qatar.

### Background and Aims

This SCALE Maintenance trial post-hoc analysis compares outcomes in liraglutide 3.0 mg early responders (ERs) vs. early non-responders (ENRs) who completed 56 weeks' treatment (ERs vs. ENRs;  $\geq 5\%$  vs.  $< 5\%$  weight loss at week 16 post-randomisation).

### Materials and methods

Efficacy outcomes for liraglutide 3.0 mg ERs vs. ENRs are reported as observed means or proportions for individuals completing 56 weeks' treatment. The safety analysis set was used for AEs.

### Results

Randomisation mean characteristics (n=212) for participants on liraglutide 3.0 mg were: 46 years, 84% female, BMI 36 kg/m<sup>2</sup>. Of those completing 56 weeks' treatment (n=159), 108 (68%) were ERs to liraglutide 3.0 mg and 51 (32%) ENRs. 91.7% ERs maintained their run-in weight loss (or lost further weight) during 56 weeks' treatment vs. 47.1% of ENRs. The percentage of those regaining all weight lost during the run-in period by week 56 was 0.0% for ERs vs. 3.9% for ENRs. At week 56, greater mean (9.9% vs. 0%) and categorical weight loss ( $\geq 5\%$ : 73.1% vs. 11.8%;  $> 10\%$ : 47.2% vs. 0%;  $> 15\%$ : 20.4 vs. 0%) and similar improvements in cardiometabolic risk factors, including waist circumference and plasma glucose levels, were observed in ERs vs ENRs. AEs were reported in 92.7% of ERs vs. 91.0% of ENRs. For SAEs, proportions were 4.9% vs. 0.0% and for gastrointestinal AEs 78.9% vs. 62.7% for ERs vs. ENRs, respectively.

### Conclusions

Among those who completed 56 weeks' treatment, liraglutide 3.0 mg ERs achieved greater mean and categorical weight loss than liraglutide 3.0 mg ENRs, following  $\geq 5\%$  weight loss pre-randomisation.

### References

1. Wadden TA, Hollander P, Klein S, Niswender K, Woo V, Hale PM, Aronne L; NN8022-1923 Investigators. Weight maintenance and additional weight loss with liraglutide after low-calorie-diet-induced weight loss: The SCALE Maintenance randomized study. *Int J Obes (Lond)*. 2015 Jan;39(1):187. doi: 10.1038/ijo.2014.88. Epub 2014 Oct 14.

## **PP 46 – Clinical Study**

### **Title: Tobacco-Related Education in Schools of Pharmacy in the Middle East: A Multinational Cross-Sectional Study.**

Authors: Maguy Saffouh El Hajj, Ahmed Awaisu, Rana Ahmed Saleh, Noora Mohammed Al Hamad, Nadir Kheir, Rony M. Zeenny, Ahmed Ibrahim Fatherahman.

College of Pharmacy, Qatar University, Doha, Qatar.

#### **Background and Aims**

Lack of adequate tobacco-related content in pharmacy curricula can interfere with pharmacist's ability to provide tobacco cessation interventions. This study aims to determine the extent of tobacco-related content in pharmacy schools' curricula across the Middle East region, instructional methods used, perceived adequacy and importance of tobacco education, and barriers for inclusion of tobacco-related content in pharmacy curricula.

#### **Materials and Methods**

A web-based survey was sent to 120 schools of pharmacy in 13 Middle Eastern countries. Key faculty members were identified and sent an e-mail with an online link to the survey. Data were descriptively analysed using Statistical Package for Social Sciences version 22.

#### **Results**

Of the 120 pharmacy schools contacted, 59 schools completed the survey (49.2% response rate). Of this, 44 (74.6%) reported including tobacco-related content in their undergraduate curricula. Nicotine pharmacology and principles of addiction (64.4%), pharmacologic aids for tobacco cessation (61%), and health effects of tobacco (61%) were the most commonly reported topics. The topics that were least perceived to be adequately covered were monitoring outcomes of tobacco cessation interventions (5.9%) and epidemiology of tobacco use (15.4%). The top barriers to inclusion of tobacco-related topics in the curriculum were lack of time (75.9%), lack of experiential training sites focusing on tobacco cessation interventions (72.2%), lack of faculty expertise (66%), and perceived lack of priority of tobacco related content in pharmacy schools (66%).

#### **Conclusions**

The current findings suggest that more efforts should be geared towards increasing content for tobacco education in schools of pharmacy across the Middle East and towards overcoming the identified barriers.

#### **References**

1. Hudmon KS, Corelli RL, Chung E, et al. Development and implementation of a tobacco cessation training program for students in the health professions. *J Cancer Educ.* 2003;18(3):142–149.
2. Kristina SA, Thavorncharoensap M, Pongcharoensuk P, Montakantikul P, Suansanae T, Prabandari YS. Effectiveness of tobacco education for pharmacy students in Indonesia. *Asian Pac J Cancer Prev.* 2014;15(24):10783–10786.

## **PP 47 – Clinical Study**

### **Title: Determinants of Body Image among Qatar University Female Students.**

Authors: Heba W.Aboshahla, Zahraa Al-Muhafda, Entsar Omer.

Health Science Department, Qatar University, Doha, Qatar.

### **Background**

Body shape perception and distressed body image is an important topic widely spread among young adult. This important issue can lead to various problems in the future including eating disorder problems, and psychological distress.

### **Aims**

This study aimed to investigate the association of different factors that determine body image dissatisfaction and perception among Qatar university female students.

**Subject:** A representative sample of 1175 Qatar university female students was collected, through the period from (April to May) and a number of 19 female students participated in focus group discussion in March, 2016 from different demographic backgrounds.

### **Materials & Methods**

A quantitative study initiated through web-based surveys that consist of 6 sections that is part of a larger study conducted by SESRI. This survey focuses on different factors that influence body shape perceptions and concerns. In addition, a qualitative research design was accomplished for in depth investigation of the use and effect of media on body shape concerns using focus groups. Therefore, three focus group discussions were conducted in different settings and times.

### **Results**

The study findings indicate a positive association between the actual and the perceived body weight, mainly obese participants were very dissatisfied with their current body weight 76%. Moreover, there was a significant influence of sociocultural factors on body weight and shape perception ( $P$ -value=0.00). The selected demographics information was not significantly associated with body shape perception. The major findings from the focus groups discussion that media influence the body shape perception among Qatar university female students.

### **Conclusions**

Negative body shape perception considers to be a major public health problem, that needs to be addressed more in Qatar and in the Arab region. Further studies need to be conducted to give more attention toward this important issue.

### **References**

1. Evans, C., & Dolan, B. (1993). Body Shape Questionnaire: derivation of shortened "alternate forms". *International Journal of Eating Disorders*, 13(3), 315-321.
2. Musaiger, A. O., Bin Zaal, A. A., & D'Souza, R. (2012). Body weight perception among adolescents in Dubai, United Arab Emirates. *Nutr Hosp*, 27(6), 1966-72

## Extra Information

Table 1. Characteristics of the sample

	N	
Age	1106	21.3 (3.2)
Years mean (SD)		
Current Martial Status (%)	1127	
Currently married		16.9
Never married		80.6
Other		2.6
Highest level of education by mother:		
Lowest education (less than sec)	1067	28.5
Medium education (high school or diploma)		30.3
Highest education (University and above)		41.2
Highest level of education by father:		
Lowest education (less than sec)	1078	23.3
Medium education (high school or diploma)		29.4
Highest education (University and above)		47.3
Reported family's economic status:		
Poor or financially challenged	1086	4.2
Financially stable		29.7
Financially comfortable or wealthy		66.1

## **PP 48 – Clinical Study**

**Title: Physical comorbidities and their management in patients with severe mental illness.**

Authors: Sara Abdulrhim, Nour Isleem, Farah Zahrah, Monica Zolezzi, Yassin Eltorki.

Department of Pharmacy, Mental Health Hospital, Doha, Qatar.

### **Background and Aims**

Studies have attributed medical comorbidities among psychiatric patients as responsible for the higher rates of premature death, dying 15 to 25 years younger than the general population. This study investigated prevalence rates of different physical illnesses among individuals with serious mental illness (SMI) attending outpatient psychiatric services in Qatar, and examined how these were managed.

### **Materials and Methods**

A cross-sectional retrospective chart review of a cohort of patients with SMI (depression, schizophrenia, bipolar or schizoaffective disorder) attending an outpatient psychiatric clinic between April 2015 and April 2016. Electronic data collection tools were used to document relevant patient information and then extrapolated into SPSS® for data analysis. Descriptive statistics, Chi-square test for categorical variables and t-test for continuous variables were used to summarize and compare the demographic and clinical characteristics of the cohort.

### **Results**

A total of 336 patients with SMI were included. Almost one-third of the study population (29.2%) reported to have at least one medical comorbidity, diabetes being the most common (16.1%). The prevalence of diabetes was highest amongst those with psychotic disorders (21.4%). Monitoring of comorbidity-associated risk factors and other relevant physical assessment parameters (such as blood pressure, weight, HbA1c, blood glucose and lipids) were documented in less than 50% of patients.

### **Conclusions**

This study represents the first in Qatar to explore the prevalence rates of concurrent medical comorbidity in patients with SMI. The results are indicative that people with SMI are less likely to receive standard levels of care for their medical co-morbidities.

### **References**

1. De Hert M, Correll CU, Bobes J, et al. World Psychiatry 2011;10:52-77, 138-151.
2. Rosenbaum L. NEJM 2016; 375:1585-89.

## **PP 49 – Clinical Study**

**Title: Does the Medicine Grand Round still retain its dignity and efficiency? An Objective survey from the Academic Health Centre of Qatar.**

Authors: Shireen Omer, Merlin Thomas, Mona Al Lanagawi.

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

### **Background and Aims**

Grand rounds are a time-honored tradition in many institutions and teaching hospitals and conducted as a weekly educational activity. At Hamad Medical Corporation, a large health care institution in the State of Qatar, Medicine Grand Rounds are held every Sunday from 7am to 8am. This survey was designed to identify the present status of Medicine Grand Rounds and identify measures for improvement.

### **Materials and Methods**

An objectively structured survey of Medicine Grand Rounds was conducted over 3 hospitals of Hamad Medical Corporation from May-June 2017 among all physicians in the Internal Medicine department.

### **Results**

A total of 450 physicians work in the Internal Medicine Department of whom 232 (52%) responded to the survey. Although majority of the physicians agree that Medicine Grand Rounds is important to their career development (67%) and improves their medical knowledge (60%), only 25% attended regularly and 30% once monthly. Clinical duties and responsibilities were cited as the most common reason (51%) for lack of attendance followed by unsuitable timing for 37% of physicians. The most important interventions that can improve the attendance and value of Medicine Grand Rounds as cited by majority of physicians include selection of speakers with excellent presentation skills, change the time of the activity, invite international speakers and format the Medicine Grand Round mainly as case presentation /patient-centred than didactic lectures.

### **Conclusions**

Medicine Grand Rounds still retains its value in improving knowledge and hence to an extent patient care. However, the attendance is low mainly because of important clinical duties; and focusing on speakers, time of Medicine Grand Round and mode of presentation can improve attendance.

### **References**

1. Van Hoof, Thomas J., et al. "A case study of medical grand rounds: are we using effective methods?" *Academic Medicine* 84.8 (2009): 1144-1151.
2. Mueller PS, Litin SC, Sowden ML, Habermann TM, LaRusso NF. Strategies for improving attendance at medical grand rounds at an academic medical center. *Mayo Clinic Proc.* 2003;78(5):549–553.

## PP 50 – Clinical Study

**Title: Impact of a Collaborative Pharmaceutical Care Service among Patients with Diabetes in Qatar Petroleum Healthcare Center, Dukhan: A Multiple Time Series Study.**

Authors: Rana Saleh, Sara Abdulrhim, Mohamed Abdelazim, Hend Al Raey, Ahmed Babiker, Nadir Kheir, Ahmed Awaisu.

College of Pharmacy, Qatar University, Doha, Qatar.

### Background and Aims

Diabetes is a chronic disease that can cause debilitating consequences if not well controlled. Studies demonstrated the benefit of Comprehensive Pharmaceutical Care Service (CPCS) on outcomes of diabetes. No studies were done in Qatar regarding this issue. The objectives of this study are to describe the demographic and clinical characteristics, evaluate CPCS's impact on glycemic control, lipid profile, blood pressure (BP), and Body Mass Index (BMI) among diabetic patients at Qatar Petroleum Medical Center, Dukhan, and classify types of drug-related problems (DRPs) identified by pharmacists.

### Materials and Methods

This was a multiple time series design study in which primary outcomes including glycated hemoglobin (HbA1c), fasting plasma glucose (FPG), BP, lipid profile, and BMI of diabetic patients were compared before and after CPCS at 0,6, and 12 months through retrospectively reviewing electronic records of 2016. The secondary outcome was types of DRPs identified throughout 2016. Data were analyzed descriptively using frequencies, percentages and means and inferentially using Repeated measures ANOVA test.

### Results

A total of 96 patients were included in the study. HbA1c reduced significantly by 1.4%, FPG by 41.3mg/dL, systolic and diastolic BP by 14.9mmHg and 8.7mmHg, respectively, and BMI by 1kg/m<sup>2</sup> with CPCS. There was no significant change in the lipid profiles. The most commonly identified DRPs were lack of understanding of the medication, inappropriate dose, form, schedule, route, or method of administration, and adverse events.

### Conclusions

Provision of CPCS in a primary healthcare setting in Qatar is beneficial and valuable in terms of improving outcomes of diabetes.

### References

1. Pousinho S, Morgado M, Falcão A, Alves G. Pharmacist Interventions in the Management of Type 2 Diabetes Mellitus: A Systematic Review of Randomized Controlled Trials. *Journal of Managed Care & Specialty Pharmacy*. 2016;22(5):493- 515
2. Butt M, Mhd Ali A, Bakry MM, Mustafa N. Impact of a pharmacist led diabetes mellitus intervention on HbA1c, medication adherence and quality of life: A randomised controlled study. *Saudi pharmaceutical journal: SPJ: the official publication of the Saudi Pharmaceutical Society*. 2016;24(1):40-8

## **PP 51 – Clinical Study**

### **Title: Ovarian Sex Cord Stromal Cell Tumors: The QATAR Experience.**

Authors: Ammar Madani, Alaaeldin Kanbour, Cicy Mary Jacob, Aleem Akram, Nabil El Hadi Omar, Hind El Malik.

Department of Oncology, National Center for Cancer Care & Research, Doha, Qatar.

### **Background and Aims**

Ovarian sex cord-stromal tumours (SCST) are relatively uncommon neoplasms that account for approximately 5–7% of all primary ovarian tumours. The sex-cord stromal tumors are subclassified as Granulosa cell tumors which frequently produce Estrogen and the Sertoli-Leydig cell tumors which produce Androgen [1-2]. It is important to identify the stromal tumors because they differ markedly from epithelial ovarian cancer in prognosis and treatment.

The Aim of this Study is to report experience with sex cord stromal tumours (SCST) of ovary in NCCCR, Qatar.

### **Materials & Methods**

Clinical records of 13 patients with histopathologically-established SCST of ovary admitted to NCCCR, Qatar, between 2010 to 2016 were reviewed. Data including age at diagnosis, stage, grade, histology, treatment, and survival were extracted.

### **Results**

13 women with ovarian sex cord stromal cell tumors were identified, including 12 with granulosa cell and 1 with steroid cell and none with Sertoli-Leydig cell tumor. Median age at presentation was 43 years (Range 16-58). 12 patients (92 %) had stage-I and 1 pt. (8 %) had Stage III disease.

9 patients had TAH + BSO. 4 patients had conservative surgery without hysterectomy. 2 patients received Adjuvant chemotherapy. 4 patients had recurrence. Of the 4 patients who underwent conservative surgery, 2 (50 %) had recurrence. All the patients were alive and disease free at last follow up.

### **Conclusions**

Ovarian sex cord-stromal tumours of ovary are relatively uncommon malignancies with very good prognosis if diagnosed early and treated adequately even if they recur. Survival in our study was excellent with all patients alive and disease free at last follow up. We recommend Complete Surgery (TAH + BSO) particularly if high grade, Stage 1C and above and/or completed child bearing to minimize recurrence.

### **References**

1. Busquets M, Gonzalez-Bosquet E, Muchart J, et al. Granulosa cell tumor and endometrial cancer: a case report and review of the literature. *Eur J Gynaecol Oncol* 2010; 31:575.
2. Boyce EA, Costaggini I, Vitonis A, et al. The epidemiology of ovarian granulosa cell tumors: a case-control study. *Gynecol Oncol* 2009; 115:221.

## **PP 52 – Clinical Study**

**Title: The effect of heat on those exposed to hot and humid environment and their awareness regarding heat related illness.**

Authors: F Paramba, H Ebeid, O Mohammad, V Naushad, N Purayil, N Ambra.

Accident & Emergency, Hamad General Hospital, Hamad Medical Corporation, Doha, Qatar.

### **Background**

Qatar is a peninsula in the Arabian Gulf with hot dry climate and low annual rainfall. Increasing heat waves particularly in urban areas where construction is most prevalent highlights a need for heat exposure assessment of those exposed to hot environment.

### **Aims**

The aim of the study is to assess the awareness regarding heat related illness among workers exposed to hot and humid environment and the clinical and biochemical effects of heat on these individuals.

### **Materials & Methods**

All individuals coming to emergency department (ED) during summer 2016 with features of HRI is included in the study. All participants are asked to fill up a questionnaire regarding their age, socio demographic information, nature of work, history of illness, individual preventive measures, hours and duration of work and heat related symptoms experienced during work.

### **Results**

A total of 174 participants were enrolled in the study. All patients were males. Eighty percent of participating individuals are from Bangladesh, India and Nepal as they constitute a major work force in Qatar. 127 patients (73%) are diagnosed as heat cramps (HC) and 47 (27%) as heat exhaustion (HE). 38% of the workers started developing their symptoms after working for more than 6 hours. The commonest complaint at the time of presentation to ED was muscle cramps (73%) followed by dizziness (68%) sweating (40%) and vomiting (29%). Among our study population ALT was elevated slightly in 48% of patients and AST in 28%.

### **Conclusions**

This year the number of individuals visiting emergency department with features of HRI was less compared to previous years, probably due to strict implementation of summer working hours and increase in the awareness regarding HRI among target population.

### **References**

None

## Poster Presentations (PP) – Quality Improvement & Patient Safety (QIPS)

### PP 53 – Quality Improvement & Patient Safety

**Title: Prevention and Management of Heat Related Illnesses: Qatar gas Medical Department Experience.**

Authors: Osama Ibrahim, Walid Hassanen, Liew Saik Kien, Francis Lence Agcaoili.

Qatar gas Medicine Department, Doha, Qatar.

#### **Background**

Body temperature is regulated in the preoptic nucleus of the anterior hypothalamus, which carefully maintains a core temperature of  $37^{\circ}\text{C} \pm 1^{\circ}$  ( $98.6^{\circ}\text{F} \pm 1.8^{\circ}$ ). While the human body has remarkable resilience against cold, it can tolerate only minor temperature elevations above normal ( $4.5^{\circ}\text{C}$ ,  $9^{\circ}\text{F}$ ). Combined with soaring high temperature and high relative humidity recorded in most days of June through August, heat stress is major concerns with work related illness, particularly for those working in open areas with prolonged heat exposure. Year 2012-2015 saw a steady rise of the number of days reaching Heat Index(HI)  $\geq 54$  (53 in 2012 vs 89 in 2015).

#### **Aims**

To demonstrate Qatar-gas medical department experience in setting quality standards for prevention and management of heat related illnesses.

#### **Interventions**

On top of the established heat stress controls: 1) Onsite aural temperature measurements – though unscientific gives confidence to workers that the medical is there and medical cares, they become conscious of the work rest cycle.

2) Provide proper snacks during break and promote water intake.

#### **Measured Outcomes**

Despite the deteriorating summer conditions, heat stress cases are at a minimum. Four cases had been recorded in 2014, five in 2015 and four in 2016. Year 2012-2015 saw a steady rise of the number of days reaching Heat Index (HI)  $\geq 54$  (53 in 2012 vs 89 in 2015)

#### **Improvement team**

Multi-disciplinary approach is the key beside development of effective Tool Box Talk

Supervisor-ASK TEAM

Supervisor -TEAM UNDERSTAND

Team - SPEAK UP

#### **Conclusions**

Despite the challenging weather conditions in Qatar during the summer season, maintenance of premium quality standards against heat related illnesses is very possible, through evidence based occupational medicine practices and smart job safety analysis

#### **Recommendations**

Standardized occupational medicine practice and employee-centered industrial hygiene measures should always be the key to ensure employers' safety against the soaring weather conditions during summer in Qatar.

#### **References**

1. Winkenwerder W, Sawka M. Disorders due to heat and cold. In: Cecil Medicine, Goldman L. (Ed), Saunders Elsevier, Philadelphia 2008.
2. McArdle W, Katch F, Katch V. Exercise physiology: Nutrition, energy, and human performance, 7th, Lippincott Williams & Wilkins, Philadelphia 2009. p.1038.

**Title: Resident Documentation of Admission Note in the Electronic Medical Record.**

**“Are we complaint with HMC policy?”**

Authors: Muhammad Zahid, Shaikha Al Shokri, Gowri Karuppasamy, Khaled Elfert, Khaled Al-Khodari, Khalid Ahmed, Mona Abubaker, Mohamed Sulaiman, Ahmed Osman, Ibrahim Yusuf, Kamran Mushtaq, Dabia Al-Mohanadi, Ahmed Al-Mohammed

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

**Background**

The admission note is one of the most important documentation of the patient's hospital journey. Hamad General Hospital policy CL 7063 dictates essentials of a “Standard Admission Note”.

A hospital wide audit by documentation specialist team noted deficiencies in the Admission note.

**Aims**

We aimed to improve the percentage of compliance in documenting a “Standard Admission Note” for patients admitted under medicine division at Hamad General Hospital to 90% by August' 2017.

**Materials and Methods**

We studied various “Change Ideas” using PDSA model of improvement over the period of 8 weeks. Ideas studied were:

- 1) Training of residents by brief lectures
- 2) Distribution of cards summarizing the essentials of a “Standard Admission Note”
- 3) A standardized Admission Note Template was made available on the EMR for all residents.
- 4) Email / WhatsApp reminders were regularly sent to residents and their supervisors

125 admission notes were reviewed. We looked at five measures of medical record documentation. (1) Admission Information (2) Details of History (3) Pertinent Findings (4) Comprehensive Plan (5) Training level & Signature.

**Results**

96% of admission notes had proper admission information. 82% had detailed history documented as compared to 69% prior to our intervention. 69% had comprehensive plan, which includes management plan, patient and family education and expected date of discharge mentioned as compared to 43% prior. Resident's grade and signature documentation improved from 24% to 93%.

**Conclusions**

The quality of “Admission Note” documentation improved in most domains by our interventions. We recommend:

- 1) Approved Electronic Admission Note template.
- 2) Automatic Alert on EMR system if the Admission note is not properly completed.
- 3) Generation of an electronic alert for residents and supervisors if the document is not signed within 24 hours.
- 4) Regular teaching and training sessions on “Adequate Admission Note” documentation.

**References**

1. HMC policy CL 7063

## **PP 55 – Quality Improvement & Patient Safety**

**Title:** Risk Factors Assessment of TIA / Minor Stroke Patients in AMAU

Authors: Muhammad Zahid, Abdulaziz Zafar, Priyanka Moovara Cackamvalli, Shanima Kodanchery Ismail, Ahmad Mohie Mohammad Salem, Mohammed Yaseen Ahmed Siddiqui, Noora Al Thani, Dabia Al-Mohanadi, Ahmed Al-Mohammed.

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

### **Background**

All Transient ischemic attack (TIA) patients are at high risk of developing recurrent stroke. Hence they should be assessed for vascular risk factors within 24 hours and secondary prevention initiated. A recent audit of 100 patients managed in Acute Medical Assessment Unit (AMAU) showed that we need to improve care for this group of patients.

### **Aims**

We aim to screen 95% of TIA/Minor stroke patients admitted to AMAU for major vascular risk factors and to commence secondary prevention by July' 2017.

### **Interventions**

Risk factor assessment pro-forma was designed, which should be completed before discharge .All TIA/Minor Stroke patients admitted to AMAU have HbA1c & Fasting lipids request ordered as soon as they are admitted. BMI recorded on admission and referred to dietitian if indicated. Regular training sessions were arranged for entire Multidisciplinary Team (MDT) in AMAU to make sure that our interventions were carried out completely before discharge. We used PDSA method of improvement to study the interventions. We ran multiple PDSA cycles over the period of 8 weeks and 80 charts were reviewed.

### **Results**

All patients had screening for Diabetes Mellitus, dyslipidemia and obesity with referral to dietician done before discharge compared to 93%, 56% and 90% respectively at baseline. Patients who had ECG and holter monitoring done improved from 89% to 100%.

All TIA/Minor stroke patients were assessed for Smoking and referred to smoking cessation clinic after our intervention as compared to 71% prior. Extra-cranial neck vessels improved to 100% in comparison to 84% before intervention.

### **Conclusions**

Introduction of risk factor assessment pro-forma and involvement of entire MDT have resulted in improvement in screening TIA/minor stroke patients for vascular risk factors and initiating secondary prevention.

We recommend: (1) Risk assessment pro-forma should be made available on Cerner system. (2) Regular teaching sessions for MDT

### **References**

- 1) American Heart Association/ American Stroke Association guidelines 2014
- 2) Royal college of Physician Stroke Guidelines 2016

**Title: Appropriateness of Urinary Catheterization in Medical Patients at Hamad General Hospital - An Audit-based Study**

Authors: Raza Ali Akbar, Jessiya Parambil, Saleema Purayil, Ahmed Abdallah.

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

**Background**

Unnecessary urinary catheterization and lack of regular review of its continued need leads to many complications including Urinary Tract Infections and prolonged length of stay for hospitalized patients<sup>1,2</sup>.

**Objectives & Aims**

The aim of this study was to evaluate the appropriateness and impact of Foley's catheter use in medical patients at Hamad General Hospital.

**Materials and Methods**

Electronic Medical Records of 30 acute patients admitted under general medicine during Jul-Aug 2017, who had urinary catheterization, were examined retrospectively.

**Results**

- 53.3% of patients were female and 63.3% were >60 years.
- The indication for urinary catheterization was documented in less than a third (30%).
- 56% of patients were catheterized on first day of admission and 20% on second day.
- Consent and procedure notes were not documented in any of the patients.
- 10% of catheters were inserted by nurses. There was no documentation for the rest.
- Only 6.7% of patients had a documented plan for removal at the time of insertion.
- In majority (90%) of patients, the reasons for continued need of catheter were not documented in progress notes.
- Bladder training was requested in 46% patients. Of these, 50% were discharged within 2 days after training.
- More than a third (37%) of patients was documented to be medically fit at the time bladder training was initiated.
- One third of patients (33%) were discharged with catheter.
- 1 in 5 (20%) patients developed infection or colonization (ESBL E. coli, Enterococcus faecalis and ESBL Klebsiella).

**Conclusions**

1. There is limited documentation regarding the procedural details of catheterization (indications, consent, procedure performed by whom etc.).
2. There is lack of regular review in progress notes by medical teams on the continued need of catheter.
3. Interventions are needed to improve documentation and daily assessment of the catheter and its need.
4. We aim to implement changes and re-audit the results.

**References**

- 1) Inappropriate urinary catheter reinsertion in hospitalized older patients. Hu FW, Tsai CH, Lin HS, Chen CH, Chang CM. Am J Infect Control. 2017 Jan 1;45(1):8-12. doi: 10.1016/j.ajic.2016.07.016.
- 2) Avoiding potential harm by improving appropriateness of urinary catheter use in 18 emergency departments. Fakihi MG, Heavens M, Grottemeyer J, Szpunar SM, Groves C, Hendrich A. Ann Emerg Med. 2014 Jun;63(6):761-8.e1. doi: 10.1016/j.annemergmed.2014.02.013. Epub 2014 Mar 20.

**Title: Audit on Fellows Duty Hours in Geriatric Fellowship Program**

Authors: Shafi Hashmath Ulla Khan, Mahmoud Ahmed Refaee, Gloria Peter, Maryam Yousef Al Obaidli, Hanadi Khamis Mubarak Alhamad.

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

**Background**

In 2003, the Accreditation Council for Graduate Medical Education (ACGME) established a maximum of 80-hour workweek for residents, averaged over 4 weeks. Geriatric Fellowship Program was established in 2014. It is a 3-year program which currently has 5 fellows. The fellows of the program take pride in participating in a unique out of hour on-call system.

Aim was to assess if the fellows working hours are compliant with the local and international guidance on duty monitoring.

**Materials and Methods**

It is a retrospective Audit. All fellows have been able to log their duty hours meticulously onto the MedHub system. Fellowship coordinator was able to get the data for a period of 6 months on all the current fellows (n=6; 1 fellow graduated in August 2017). Data was analyzed by the Chief Fellow responsible for the duty roster along with the Program Director.

**Results**

Based on the 6 months data, fellows in Geriatric Fellowship Program on an average work 49 hours/week averaged over 4 weeks. Fellows, specialists and residents (rotating through Geriatrics Department) take part in a rolling roster covering the 2 long-term facilities i.e., Enaya Specialized Care Center and Rumailah Hospital. One Physician provides care for 150 bedded Enaya Specialized Care Center. At Rumailah Hospital, first On-call Physician covers the Long-term care units (including Tracheostomy) and second On-call Physician covers surgical wards such as ENT, Ophthalmology and Plastics. Physicians at both Long-term facilities take Code Blue and RRT Calls. The out of hour on-call gives fellows and residents an excellent opportunity to consolidate and acquire skills by dealing with acute/atypical illnesses in the elderly, long-term & surgical patients under consultant's supervision.

**Conclusions**

Geriatric Fellowship Program's Fellows are compliant with local and international guidance on duty hours.

**References**

1. ACGME International Foundational Requirements for GME – VI.D.1.
2. HMC Policy: GME 1016 Resident Duty Hours – 3.6.1.

**Title: Generic Audit on Documentation of Death Summaries in Geriatrics & Long-term Care**

Authors: Shafi Hashmath Ulla Khan, Susan Mohieldeen Osman, Asma Mirghani, Sayed Abbas Hanadi Khamis Mubarak Alhamad.

Department of Geriatrics, Rumailah Hospital, Doha, Qatar.

**Background**

Generic medical record keeping standards define good practice for medical recording as accurate, valid, reliable, timely, relevant, legible and complete. Death summaries are completed using the standard form created within the department few years ago. The purpose of clinical audit is to measure compliance with the standards and to identify areas where practice should be improved.

To produce 'baseline' measures of good clinical record keeping and to improve the quality of death summaries record keeping.

**Materials and Methods**

Death Summaries are usually completed by the primary physicians electronically in close conjunction with the responsible Consultant. It is then forwarded to be discussed within the departmental mortality and morbidity meetings.

It is a generic, retrospective Audit. All death summaries completed over last 6 months from January 2017 to July 2017 were audited. Audit Proforma was created using all the sections of the death summary. Data was collected and analyzed on 21 patients. Completed proforma's were stored at a secure office in the geriatric department.

**Results**

All sections of the audited death summaries (n=21) had been diligently completed. They were meeting all the standards in keeping with good practice for medical record keeping. Audit revealed majority of deaths secondary to sepsis were either of respiratory or urinary origin. Majority of them (>95%) had a DNAR decision made.

**Conclusions**

Our audit has confirmed that a robust system in scrutinizing the mortalities already exists within our department. Subsequent to this audit, the death summary form was further modified with relevant information after discussion within the department.

**References**

1. Health Informatics Unit Standards for Generic Medical Record Keeping Standards, RCP.
2. General Medical Council guidance on Medical Record Keeping.

**Title: Audit on Readmissions in Acute Geriatrics**

Authors: Noorudeen Kaladi Kunnunmal, Shafi Hashmath Ulla Khan, Poyakara Abdul Rahiman Kammadath, Amin Abdelghany, Hanadi Khamis Mubarak Alhamad.

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

**Background**

“Emergency readmission” is defined as any emergency admission into hospital within 30 days or less following discharge from a previous stay in hospital. Studies on Readmissions have noted readmission rates in older people between 17% to 24%, however in patients with chronic illnesses such as congestive cardiac failure it is as high as 36%. These readmissions occur despite monitoring, addressing gaps, improving discharge process and redesigning transitions to post-acute settings

**Aims**

To monitor the readmission rates in older people.

**Materials and Methods**

It is a retrospective audit. Data profile on all admissions to Acute Geriatrics has been maintained by the dedicated Physician. He noted 119 Patients were admitted under Acute Geriatrics between Jan 2017 & June 2017. 41 patients were readmitted during this period. This year, we cohorted these patients (n=41) age-wise such as 65-70, 71-75, 76-80, 81-85, 86-90, 91-95 and 96-100 years. This was to identify the most high-risk age group and find preventative strategies. Data was stored at a secure office in the Geriatric Department.

**Results**

Most patients were older with an average age of 84 with multiple comorbidities. Average length of stay was 16.4 days highest in age group 85-89 (23 days). Readmission rate was 34%. Respiratory tract infections (63%) and Urinary tract infections (24%) were found to be predominant causes for admissions. Expectedly Mortality was highest in age group 95-99 years predominantly a sequela of severe sepsis. Most common comorbidities throughout all age groups were CNS disease (such as Dementia & Stroke), DM and HTN. This would explain the high rates of respiratory tract infections secondary to impaired swallowing.

**Conclusions**

Most of the diagnoses of readmissions were similar to the index admissions and they were unavoidable. We continue to tailor care plans based on readmission risk to reduce future rates of readmissions.

**References**

1. Centers for Medicare & Medicaid Services: FY 2012 IPPS Final Rule; Definition of Readmission.
2. Gooding J, Jette AM. Hospital readmissions among the elderly. J Am Geriatric Soc. 1985 Sep; 33(9):595-601.

**Title: Cerebral Venous Thrombosis: A difficult to manage condition, exemplified by a case review and implementation of a local 'Assessment and Management Pathway'**

Authors: Jamal Sajid, Phool Iqbal.

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

### **Background**

Cerebral venous sinus thrombosis (CVT) is an uncommon but potentially life-threatening condition. It is commonly associated with haemorrhage, thus pose a significant diagnostic and management challenge.

### **Methods and Results**

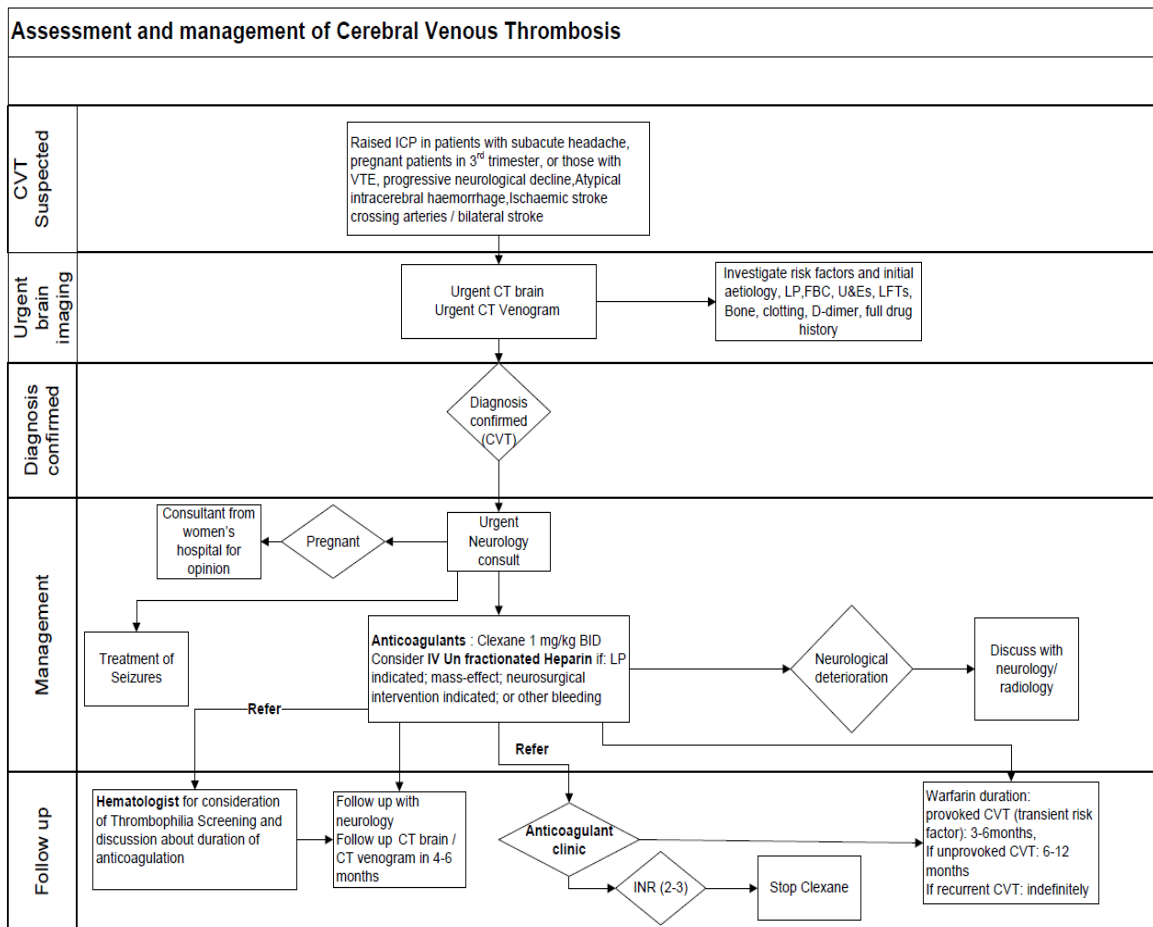
A 16-year-old boy, with history of Cerebral Palsy and Epilepsy presented to the ED with one-day history of weakness and altered mental status. On examination he had Glasgow Coma Scale of 9 and weakness of left side. Urgent CT Scan of head showed venous infarct with haemorrhage in right posterior parietal region; CT Venogram confirmed Superior Sagittal Sinus Thrombosis. Urgent thrombophilia screen was sent, followed by commencement of therapeutic dose of Low Molecular Weight Heparin. Just following three doses of LMWH, he suddenly deteriorated. CT Scan showed significant expansion of parietal haemorrhage causing midline shift of 13mm. Patient underwent urgent Decompression Hemicraniectomy, while his anticoagulation was held. He was discharged on day 14<sup>th</sup> of his admission without any anticoagulation. Patient presented three weeks later with extensive DVT of right lower limb. A CT head was performed before the commencement of anticoagulation; which showed resolution of previous haemorrhage. Protein C and S found to be low on two occasions and he was started on lifelong anticoagulation.

### **Conclusions**

We have implemented a local pathway for the 'Assessment and Management of CVT'. We suggest 'Urgent CT Venogram' in patients with 'risk of CVT'. Treatment of CVT, consists of reversing the underlying cause when known, control of seizures and intracranial hypertension, and antithrombotic therapy. Anticoagulation is the mainstay of treatment and associated haemorrhage is NOT a contraindication for it. We also suggest involving 'neurology', 'hematology', Obstetrics and 'neurosurgery' teams in management.

### **References**

1. Saposnik G, et al. American Heart Association Stroke Council and the Council on Epidemiology and Prevention. Diagnosis and management of cerebral venous thrombosis: a statement for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2011 Apr;42(4):1158-92.



Assessment and Management of CVT-NHS.V4.17.02.2016

# **Title: Improving the Quality of Inpatient Multi-Disciplinary Team- and SBAR-based Handover in Acute Medical Unit (AMU) of General Internal Medicine (GIM), Hamad General Hospital-Qatar**

Authors: Abdel-Naser Elzouki, Anand Kartha, Muhammad Aamir Waheed, Sumaira Rafique, Anei George, Jasmine John, Mostafa Ibrahim, Raafat Darweesh.

Department of Medicine, Hamad Medical Corporation, Doha, Qatar.

## **Background and Aims**

AMU was launched in 2015 as a new inpatient service for medical patients expected to stay  $\leq 3$  days at our tertiary care academic medical center. Morning and afternoon handovers were conducted regularly, but the evening handover was occurring infrequently and was not multi-disciplinary team (MDT) based or standardized. This project aimed to improve the quality of evening handover between Consultants in the AMU, and to conduct it in a MDT- and SBAR-based format.

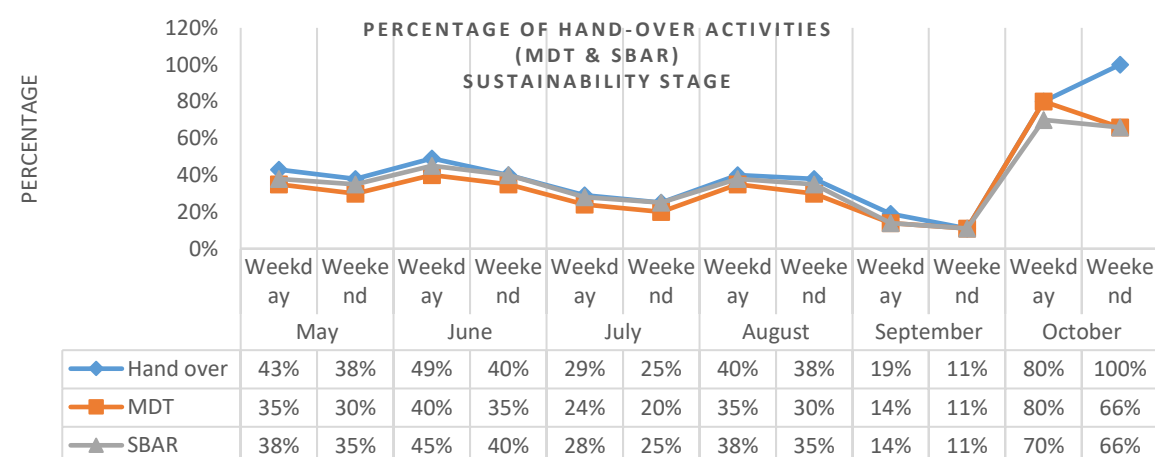
## **Materials & Methods**

The project was performed during February to October 2016 through Plan-Do-Study-Act (PDSA) cycles that study and revise systems and address barriers toward restructuring effective care. A data collection form asked: 1) Is evening handover happening between the two shifts or not? 2) If it happened, was it in MDT format? and 3) If SBAR was used? MDT handover is defined as handover with presence of the two shifts consultants and at least two more disciplines (a resident, fellow, case manager, nurse, coordinator and/or pharmacist). SBAR (Situation, Background, Assessment, and Recommendation) is a powerful tool used to improve effectiveness of communication between individuals. The following interventions were implemented: 1) using reminder calls and WhatsApp messages, in which MDT handover team pictures were shared with the group, 2) daily data collection to provide feedback, 3) random visits and participation by MDT handover process leads 4) emphasis on SBAR.

## **Results**

During the study period, evening handover increased from  $<10\%$  to  $40\%$  by June 2016, and  $>80\%$  by October 2016 (Figure 1). Some variations were noted during month of Ramadan and EID holidays, especially on weekends.

Figure 1:



## **Conclusions**

Standardization of out-of-hours handovers is needed for a system change and is successful in our AMU. Use of electronic handovers, training, leadership development, and greater administrative commitment will help in continuity of care, promote patient safety, and ensure better outcomes.

# Case Reports

## Case Report 1

**Title: Autosomal dominant polycystic kidney disease and pericardial effusion. A case report.**

Authors: Guillermo Alberto Perez Fernandez.

Department of Cardiology, The Cuban Hospital, Dukhan, Qatar.

### Case Report

The autosomal dominant polycystic kidney disease (ADPKD) accounts for 1 out of 400-1000 live births, being a hereditary disorder with cystic and non-cystic manifestations as well as extra-renal involvements. Two distinct gene defects have been recognized in the pathogenesis of ADPKD: PKD 1 which represents nearly 85% of the cases and PKD 2. The polycystin complex (PKD1 and PKD2 encoding polycystin-1 and polycystin-2 respectively) is implicated in the regulation of the cell cycle and hence holds the key in the pathogenesis of ADPKD. Thus, a defective polycystin complex might lead to abnormal epithelial cell differentiation and the various phenotypic expressions of ADPKD. The pericardial effusion 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 gen 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 dispensability of the connective tissue. We report the case of a 35 years old female Moroccan patient with the diagnosis of ADPKD with an asymptomatic moderate pericardial effusion where the existence of a PE drew a misplaced concern.

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## Case Report 2

### **Title: Late sinus bradycardia: An unreported adverse effect of intravenous ondansetron**

Authors: Guillermo Alberto Perez Fernandez; Francisco Amed Abad Aguiar.

Department of Cardiology, The Cuban Hospital, Dukhan, Qatar.

### **Case Report**

Ondansetron, a selective 5-hydroxytryptamine 3 (5-HT<sub>3</sub>) receptor antagonist has become a very popular drug indicated for the prevention and treatment of nausea and vomiting associated with chemotherapy, radiotherapy, surgery and shivering in post-anesthesia settings, Cardiovascular adverse effects related with the use of this drug are deemed as rare.

We present a case of a 39-year-old woman with a past medical history of external and internal hemorrhoids diagnosed three months ago. The patient was classified as American Society of Anesthesiologists (ASA) physical status class 1, and the surgical procedure to be done would be a hemorrhoidectomy by transanal hemorrhoidal dearterialization (THD). During the perioperative period, she was given standard spinal anesthesia and was used ondansetron, 4 mg (once). Surgery ended with no complication. After 19 hours presenting good vitals, the patient started having sinus bradycardia of up to 35 beats per minute being asymptomatic. After 24 hours with supportive treatment for bradycardia, the heart rate went to normal.

This case would be the sixth case reported in the medical literature relating the use of ondansetron with bradycardia and the first one where the bradycardia was late.

Additionally, this case stresses the importance of the awareness clinicians should have when using ondansetron since any bradycardia can lead potentially to a serious life-threatening condition. We highlight the adverse effect of this medication, which can be late. To our knowledge, this is the first reported case with this adverse effect showing up so late.

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### Case Report 3

#### **Title: Thyrotoxic neuropathy: A rare cause of acute flaccid paraplegia**

Authors: Aiman AL Wahaibi, Farook S. Wali, Ali. Reesi, Santosh Kumar.

Department of Internal Medicine, Sohar Hospital, Sohar, Oman.

#### **Case Report**

Acute polyneuropathy is a rare manifestation of severe hyperthyroidism. We report a 22-year-old Omani male with acute onset, rapidly progressive, flaccid areflexic paraplegia as the presenting manifestation of thyrotoxicosis. Nerve conduction studies revealed a mixed (motor and sensory) axonal and demyelinating polyneuropathy. Treatment of hyperthyroidism paralleled with recovery of symptoms and signs. Besides highlighting this rare association, this report underscores the importance of including thyroid function tests (TFT) in the evaluation of acute polyneuropathy.

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## Case Report 4

### **Title: Mucinosis disease spectrum associated with Systemic Lupus Erythematosus**

Authors: A.M. Chakraborty, S. Ghosh, S. Chowdhury, H. Sonowal, D. Mondal.

Department of General Internal Medicine, IPGME&R and SSKM Hospital, Kolkata, India.

### **Case Report**

Skin involvement occurs in greater than 85% of systemic lupus erythematosus (SLE) cases. Papulonodular mucinosis (PNM) is characterized by dermal mucin deposition seen relatively infrequently.

A 51 years female patient presented with low grade intermittent fever with inflammatory polyarthritis since last 2 years. She had history of papular skin lesion since last 10 year with history of biphasic Raynaud's phenomena. Skin lesion first appeared in the distal part of the upper limb and then spread centripetally to involve other parts of the body. The physical examination imparted anaemia and multiple, relatively well-demarcated, erythematous papules and nodules scattered over her lower back, limbs, trunk and face with no photosensitive dermal lesion or malar rash. Significant Investigations include Hb-8.3 gm/dl, TLC- 17800 cells/cmm, Neutrophils-96%; Lymphocyte-2% Eosinophil-2%, platelets-410000 cells/cmm. Urea-56 mg/dl, Creatinine- 1.2 mg/dl, USG- grade I fatty infiltration, 24 hour urinary protein 858 mg, Anti-nuclear antibody (ANA) 3+ coarse speckled, Ro 52+, SS-B+, Direct coomb's test + , C3 94, C4 13, hS CRP <0.03. HRCT thorax was suggestive of interstitial lung disease (ILD). Renal biopsy showed Class III/V lupus nephritis. Skin biopsy showed deposition of bluish materials around the sweat glands and between the collagen bundles in the dermis. The mucinous material was stained with alcian blue. A scant perivascular lymphocytic infiltrate was observed, based on these findings, the skin lesions were diagnosed as mucinosis spectrum of disease as PNM in a patient with SLE. Patient managed with systemic glucocorticoids, Cyclophosphamide, and Hydroxychloroquine with favorable response.

Conclusions: PNM is a distinctive, although unusual cutaneous manifestation of SLE and PNM is due to a diffuse deposit of mucin in the dermis. This patient had mucinosis spectrum of disease as a sole cutaneous manifestation associated with SLE with target organ damage.

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## Case Report 5

### **Title: A case of silent Pancreatic Neuroendocrine tumor presenting with hypoglycemia**

Authors: Tarik Elhadd, Nour N Suleiman, Mohamed Bashir, Emad Naem, Khalid Ahmed, Ahmed Elaffendi, Abdul Badie Abou Samra.

Qatar Metabolic Institute, Department of Medicine, Hamad Medical Corporation, Doha, Qatar.

### **Case Report**

A previously healthy and fit 52-year-old gentleman of Asian descent presented with recurrent severe neuroglycopenic hyperinsulinemic hypoglycemic symptoms, suggestive of insulinoma. On several occasions he was confirmed to have severe hypoglycaemia with venous blood glucose values ranging between 1.5 to 2.7 mmol/l with inappropriate high level of insulin and C-peptide of 32 mc/unit/ml (N. 2-23) & 4.5 ng/ml (N. 0.78-5.19) respectively. Other hormonal assessment including pituitary hormones, chromogranin A, urinary 5-HIAA, and cortisol were all normal. CT imaging picked up a 4x4 cm well circumscribed lesion in the tail of the pancreas, with no lesion elsewhere. Endoscopic ultrasonography confirmed the mass to be avascular and within the pancreas. He underwent laparoscopic distal pancreatectomy uneventfully in February 2016. Histology of the tumour showed a well differentiated neuroendocrine tumour of a carcinoid variety, grade 2, with positive staining for chromogranin A, and Synaptophysin CK. Following surgery, the patient had no further hypoglycemia and remained symptom free up to 18-month of follow up with PET, WB CAT scanning showing no recurrence or metastases.

Discussion: NET tumours induced hypoglycemia is generally caused by big IGF-II molecules secretion. Rarely carcinoid tumours were reported to secrete insulin but this is usually in the context of carcinoid syndrome and has been reported to arise from tumours in various tissues. For a silent pancreatic carcinoid tumour to cause hyperinsulinaemic hypoglycemia is rather unusual. Plausible mechanisms include processing and secretion of insulin from tumour cells. Alternatively, secretion of insulin from adjacent islet cells may have been caused by paracrine effects. The exact mechanism in our case, however, only remains speculative.

Conclusion: Tumours of the pancreas causing hypoglycemia may not necessarily be insulinoma. Silent neuroendocrine tumour of the carcinoid (Argentafinoma) variety may be the culprit

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## Case Report 6

### Title: Primary Pituitary Tuberculosis Revisited

Authors: Fatma Ben Abid, Mohammed Abukhattab, Hanfa Karim, Mohamed Agab, Issam Al-Bozom and Wanis H. Ibrahim.

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

### Case report

Primary pituitary tuberculosis (in absence of other organ involvement and constitutional symptoms) is an extremely rare disease with total reported cases in the literature fewer than a hundred. Misdiagnosis as pituitary adenoma is common and late diagnosis can result in a permanent endocrine dysfunction and/or long-term neurologic sequelae.

We report on the case of a middle-aged woman who presented with a severe headache and left third cranial nerve palsy. Magnetic resonance imaging (MRI) revealed a large pituitary tumor invading the left cavernous sinus. The case was initially misdiagnosed as pituitary adenoma. A pituitary biopsy was performed and was suggestive of pituitary tuberculosis. Extensive radiologic investigations did not reveal any evidence of other organ involvement by tuberculosis. She was successfully treated with anti-tuberculous medications.

Conclusions: In areas with a high pre-test probability of tuberculosis, pituitary tuberculosis should be included in the differential diagnosis of pituitary tumors in order to avoid unnecessary surgical interventions. Besides being the first histologically-proven primary pituitary tuberculosis case reported from Qatar, the current case is unique in that extensive radiologic investigations did not reveal any evidence of other systemic or pulmonary tuberculosis.

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## Case Report 7

### **Title: Infective Endocarditis after Multiple Rat Bites in a Patient with Diabetic Neuropathy: If not Streptobacillus moniliformis, What Else Should be Suspected?**

Authors: Wanis H Ibrahim, Abdurrazzak A Gehani, Fatima B Eltayeb.

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

### **Case Report**

Infective endocarditis complicating rat bites is extremely rare and almost exclusively a complication of rat bite fever caused by *Streptobacillus moniliformis* (a common microbial flora of rat mouth). It typically occurs in patients with prior valvular abnormalities. We here report a case infective endocarditis of native valve complicating rat bite with unique features.

#### **Aims and Methods**

To the best of our knowledge, this is the first report of *Staphylococcus aureus* (another common flora of rat teeth) native valve endocarditis complicating rat bite.

#### **Results**

A 45-year old man with long-standing diabetes, presented with fever and hypotension three days after multiple painless rat bites in his feet that resulted in partial amputation of the left second toe.

Investigations confirmed the diagnosis of infective endocarditis. Unexpectedly, his blood culture revealed *Staphylococcus aureus*. He was successfully treated and discharged home.

#### **Conclusion**

To the best of our knowledge, *Staphylococcus aureus* infective endocarditis after rat bite has not been previously reported. We suggest that, in addition to *Streptobacillus moniliformis*, *Staphylococcus aureus* should be an etiologic possibility in cases of infective endocarditis associated with rat bites.

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## Case Report 8

### **Title: Nonhealing wound and Calciphylaxis in Hemodialysis patients. Multiple cases from Qatar. (Treated with Multi-interventional Strategy)**

Authors: Saifat Ullah Khan, Fadwa Al Ali, Mohamad Alkadi, Hassan Al-Malki ,Omar Fituri, Muhammad Asim, Mohammad Amin, Adel Ashour, Aisha Elsayed, Kholod Nasser, Sahar Ismail.

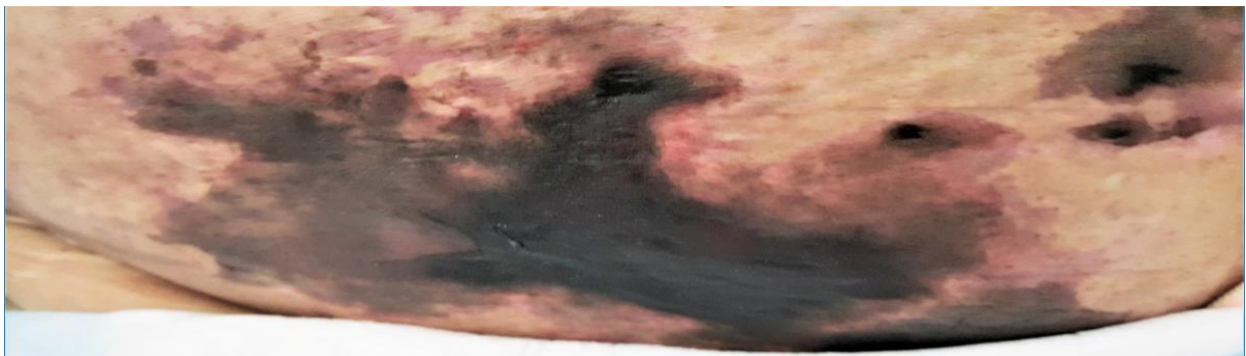
Department of Nephrology, Hamad General Hospital, Doha, Qatar.

### **Case Report**

Calciphylaxis is a life-threatening complication in patients with kidney disease. The lesions are usually very painful and ulcerations and necrosis can develop. Complications, particularly septic episodes are common and explain the high mortality rate of about 45–80%

A 59 years old Female patient with longstanding Diabetes mellitus, Hypertension, End stage renal failure on peritoneal dialysis presented to emergency department with severe lower abdominal and pain at sacral area. On physical examination there was tenderness, induration and blackish discoloration of lower abdominal wall and sacral area. CT scan showed Extensive calcification of abdominal wall blood vessels and skin biopsy showed panniculitis with necrosis and calcification of small vessels. To intensify her dialysis we shift her to Hemodialysis with infusion of Sodium thiosulfate and hyperbaric Oxygen therapy started. Within week after starting Sodium thiosulfate pain was dramatically improved. We stop calcium phosphate binder, Active vit D, dialysed with Low calcium dialysate and used Calcimimetic drug to treat secondary hyperparathyroidism. General surgeon was involved for possible Parathyroidectomy. Other five cases were diagnosed with lesion of breast in two patients and one with thigh lesion. One male patient was diagnosed with Penile lesion. There are very few cases reported in the literature with lesion of calciphylaxis located on Un-usual area of body, like breast, Penile, and abdomen the patients like we presented.

Conclusions: Calciphylaxis carries a high morbidity and mortality that why early recognition and treatment is important. We treated all our patient using multi-interventional strategy with normalization of high serum calcium and phosphate levels administration of sodium thiosulfate, We used Hyperbaric oxygen therapy in all of our patient.



Necrotic Lesion of abdominal wall

## Case Report 9

**Title: Vitamin B12 deficiency presenting with pancytopenia and haemolytic anaemia.**

Authors: Muhammad Naeem, Muhammad Aamir Waheed, Jessiya, Saleema Purrayil.

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

### Case Report

Vitamin B12 deficiency is not an uncommon condition. Patient usually presents with megaloblastic anaemia and pancytopenia. There are reports in literature of vitamin B12 deficiency associated with other immunological conditions. We report such a case of vitamin B12 deficiency associated with haemolytic anaemia, in a 36 years old Indian man, who presented to Hamad general hospital with chief complaints of fatigue, anorexia and tachypnoea. These symptoms had been present for the last one and a half month, but in the last week they increased in severity. Review of systems revealed that he had dark coloured urine and icterus in the eyes. He had no significant past History or Family History. Patient is working as accountant and there is no history of any illicit drug use or smoking. Patient is generally vegetarian, though he consumes chicken occasionally. On examination, he was looking pale and jaundiced. There was no organomegally rest of the systemic examination including neurological examination was unremarkable. His haemoglobin on presentation was 2.7 g/dl, his wbc was 2.3 and platelet count was 32, MCV was 105. He was found to have a haptoglobin of <4. Workup for the causes was conducted and it was found that his vitamin b12 level is very low (less than 111). His G6PD level was normal, Coombs test was negative, flowcytometry was normal and workup for paroxysmal nocturnal haemoglobinuria was negative. His intrinsic factor and parietal cell antibodies were positive suggestive of Pernicious anaemia as a cause of B12 deficiency. Ultrasound abdomen was performed and it was normal. The patient was diagnosed as having pancytopenia due to B12 deficiency and associated haemolytic anaemia. He was started on treatment with injection vitamin b12 according to vitamin b12 replacement protocol. The patient responded to treatment with vitamin b12, with resolution of pancytopenia and haemolysis.

On follow up, his anaemia has improved with haemoglobin of 10, WBC is 4 and his platelet count has normalized.

Clinicians need to be aware of this association as both conditions occur rarely together and unawareness may lead to unnecessary investigations for haemolytic anaemia and procedures like bone marrow biopsies.

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## Case Report 10

**Title: De Novo Precursor B-Lymphoblastic Leukemia/Lymphoma with Double-Hit Gene Rearrangements (MYC/BCL-2) Presented With Spinal Cord Compression and Acquired Factor XIII Deficiency**

Authors: Dina Sameh Solimana, Ahmad Al-Sabbagha, Feryal Ibrahima, Shehab Fareed, Mohamed Talaatd, Antoun Yacoub and Mohamed A. Yassin.

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

### Case Report

Double-hit lymphomas (DHLs) are aggressive mature B-cell neoplasms associated with rearrangements involving MYC and B-cell lymphoma-2 (BCL-2). Such DH events are extremely rare in B-cell precursor acute lymphoblastic leukemia (B-ALL), especially in young adults. A 29-year-old male patient initially presented to emergency department with right mandibular mass of 2 months duration associated with intermittent fever. Laboratory workup revealed very high lactate dehydrogenase at 2,026.0 U/L. Peripheral blood revealed pancytopenia with many circulating blasts (about 77%). Bone marrow (BM) aspirate revealed infiltration with many small sized blasts of very high nucleocytoplasmic ratio, finely dispersed nuclear chromatin and prominent nucleoli. The BM biopsy reflected diffuse replacement by sheets of blasts, positive for TdT, PAX-5, CD10, cMYC, BCL-2 and CD20 with Ki-67 > 90%. Flow cytometry on BM revealed a precursor B-immunophenotype (CD45 (dim), CD19, CD10, Tdt and CD20). The blasts are negative for cytoplasmic and surface IgM. Cytogenetics revealed complex karyotype: 46,XY,del(6)(q21q23),t(8;22)(q24.1;q11.2),t(14;18)(q32;q21)(20). A diagnosis (B-ALL), with t(8;22) (q24.1;q11.2) and t(14;18)(q32;q21) was made.. The patient had severe life-threatening bleeding despite of normal prothrombin time (PT) and activated partial thromboplastin time (APTT) due to acquired factor XIII deficiency, an overlooked rare coagulopathy disorder. In addition, the patient developed acute sudden onset paraplegia, and magnetic resonance imaging (MRI) of spine showed acute cord compression which necessitated emergency radiotherapy after which chemotherapy was started. MRI showed dramatic resolution of the mass. Many of these had frequent central nervous system (CNS) involvement, with complex karyotypes, highly aggressive course, with short survival of less than 1 year. This case however showed very good response to treatment. In contrary to DHL, de novo B-ALL with double-hit rearrangements is more prevalent in pediatrics and young adults. Although most of reported cases represent transformation of follicular lymphoma, our patient's young age, acute onset and absent lymphadenopathies all support de novo ALL.

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## Case Report 11

**Title: Spinal cord compression secondary to extramedullary hematopoiesis: a rareness in a young adult with thalassemia major**

Authors: Shehab Fareed, Ashraf Soliman, Vincenzo De Sanctis, Samah Kohla, Dina Soliman, Diala Khirfan Adriana Tambuerello, Mohamed Talaat, Abdulqadir Nashwan, Palmira Caparrotti, Mohamed A. Yassin.

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

### Case report

We report a case of a thalassemia major male patient with back pain associated to severe weakness in lower extremities resulting in the ability to ambulate only with assistance. An urgent magnetic resonance imaging (MRI) of thoracic and lumbosacral spine was requested. A posterior intra-spinal extradural mass lesion compressing the spinal cord at the level of thoracic T5-8 was present, suggesting an extramedullary hematopoietic centre, compressing the spinal cord. The patient was treated with blood transfusion, dexamethasone, morphine and paracetamol, followed by radiotherapy in 10 fractions to the spine (daily fraction of 2Gy from T3 to T9, total dose 20 Gy). His pain and neurologic examination quickly improved. A new MRI of the spine, one week after radiotherapy, showed an improvement of the extramedullary hematopoietic mass compression. In conclusion, EMH should be considered in every patient with ineffective erythropoiesis and spinal cord symptoms. MRI is the most effective method of demonstrating EMH. The rapid recognition and treatment can dramatically alleviate symptoms. There is still considerable controversy regarding indications, benefits, and risks of each of modality of treatment due to the infrequency of this disorder. ([www.actabiomedica.it](http://www.actabiomedica.it))

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## Case Report 12

### **Title: Spinal Abscess Caused by Salmonella Bacteremia in a Patient with Primary Myelofibrosis**

Authors: Shehab Fareed, Abdulqadir J. Nashwan, Sulieman Abu Jarir, Ahmed Husain, Dina Sameh Suliman, Friyal Ibrahim, Abbas Moustafa, Muhammad S. Akhter, Mohamed A. Yassin.

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

### **Case report**

Primary Myelofibrosis (PMF; a clonal disorder arising from the neoplastic transformation of early hematopoietic stem cells). Patients incidence of PMF of approximately 1 per 100 000 per year Spinal cord compression (SCC) is a common complication or even a presentation symptom due to extramedullary hematopoiesis (EMH). However, a case of SCC caused by a spinal abscess is unusual. To the best of our knowledge, this is the first case report of this rare condition.

We are reporting the case of a 50-year-old male with primary myelofibrosis and long-standing splenomegaly with back pain as a presenting symptom who, was found to have spinal cord compression. An MRI was performed, as EMH was suspected. The blood cultures revealed an infection with *Salmonella*, so the patient was placed on ceftriaxone, with no response. An uncommon complication of *Salmonella* infection is spinal abscess. The patient demonstrated substantial clinical improvement after 2 weeks of neurosurgical intervention by abscess drainage and pain management.

In PMF patients, back pain with fever or mild neurological symptoms needs to be investigated urgently because of the high risk of irreversible spinal cord damage leading to partial or complete loss of functional independence and shortened survival. The compression could be related to EMH or infections due to an immunodeficiency.

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## Case Report 13

### **Title: Cytomegalovirus-induced Hemorrhagic Colitis in a Patient with Chronic Myeloid Leukemia (Chronic Phase) on Dasatinib as an Upfront Therapy.**

Authors: Mohamed A. Yassin, Abdulqadir J. Nashwan, Ashraf T Soliman, Anil Yousif, Afra Moustafa, Afaf AlBattah, Shehab F. Mohamed, Deena S. Mudawi, Sarah Elkourashy, Deena-Raiza Asaari, Hope-love G. Gutierrez, Mohamed Almusharaf, Radwa M. Hussein, Abbas H. Moustafa, Hatim El Derhoubi, Sarra Boukhris, Samah Kohla and Nader Aldewik.

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

### **Case report**

Dasatinib is a kinase inhibitor indicated for the treatment of newly diagnosed adults with Philadelphia chromosome-positive (Ph+) chronic myeloid leukemia (CML) in chronic phase and accelerated (myeloid or lymphoid blast) phase, and CML with resistance or intolerance to prior therapy including imatinib and in adults with Ph+ acute lymphoblastic leukemia<sup>1</sup> The most common adverse reactions (15%) in patients with newly diagnosed chronic-phase (CP) CML include myelosuppression, fluid retention, and diarrhea, whereas in patients with resistance or intolerance to prior imatinib therapy, side effects include myelosuppression, fluid retention, diarrhea, headache, dyspnea, skin rash, fatigue, nausea, and hemorrhage. We report a 39-year-old Ethiopian female patient who received dasatinib as upfront therapy for the treatment of CP-CML who experienced chronic diarrhea for two months, which progressed to hemorrhagic colitis due to cytomegalovirus (CMV) infection of the colon. To our knowledge, this is the first case of CMV colitis in a patient receiving dasatinib as upfront therapy.

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## Case Report 14

**Title: Dasatinib Induced Avascular Necrosis of Femoral Head in Adult Patient with Chronic Myeloid Leukemia.**

Authors: Mohamed a. Yassin, Abbas H. Moustafa, Abdulqadir J. Nashwan, Ashraf T. Soliman, Hatim El Derhoubi, Shehab F. Mohamed, Deena S. Mudawi, Sarah Elkourashy, Deena-Raiza Asaari, Hope-Love G. Gutierrez, Radwa M. Hussein, Mohamed Al Musharraf, Samah Kohla, Ahmed Elsayed and Nader Al-Dewik.

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

### Case report

Chronic myeloid leukemia (CML) is a myeloproliferative neoplasm characterized by the presence of the Philadelphia (Ph) chromosome resulting from the reciprocal translocation t(9;22)(q34;q11). The molecular consequence of this translocation is the generation of the BCR–ABL fusion gene, which encodes a constitutively active protein tyrosine kinase. The oncogenic protein tyrosine kinase, which is located in the cytoplasm, is responsible for the leukemia phenotype through the constitutive activation of multiple signaling pathways involved in the cell cycle and in adhesion and apoptosis. Avascular necrosis of the femoral head (AVNFH) is not a specific disease. It occurs as a complication or secondary to various causes. These conditions probably lead to impaired blood supply to the femoral head. The diagnosis of AVNFH is based on clinical findings and is supported by specific radiological manifestations. We reported a case of a 34-year-old Sudanese female with CML who developed AVNFH after receiving dasatinib as a second-line therapy. Though the mechanism by which dasatinib can cause avascular necrosis (AVN) is not clear, it can be postulated because of microcirculatory obstruction of the femoral head. To the best of our knowledge and after extensive literature search, this is the first reported case of AVNFH induced by dasatinib in a patient with CML.

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## Case Report 15

**Title: Concomitant Classic Hodgkin Lymphoma of Lymph Node and cMYC-Positive Burkitt Leukemia/Lymphoma of the Bone Marrow Presented Concurrently at the Time of Presentation.**

Authors: Dina S. Soliman, Shehab Fareed, Einas Alkuwari, Halima el-Omri, Ahmad Alsabbagh, Amna Gameel, Deena Mudawi and Mohamed Yassin.

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

### Case report

Discordant lymphoma is rare condition in which different types of malignant lymphomas occurring in different anatomic sites. The two diseases may present clinically as concurrent or sequential disease (10). Herein we are reporting a Pakistani female in her 60s, a carrier of hepatitis B virus with multiple comorbidities presented with cervical lymphadenopathy, diagnosed as Hodgkin's lymphoma, mixed cellularity. During the staging workup, the patient was discovered to have extensive bone marrow (BM) involvement by Burkitt leukaemia/lymphoma (BL). Cytogenetic analysis revealed positivity for t(8;14)(q24;q32) confirmed by Fluorescence In Situ Hybridization (FISH) for IGH/MYC. Epstein-Barr virus (EBV) was demonstrated heavily in our case, with (EBV) DNA of 24,295,560 copies/ml by PCR at time of presentation, in addition, the neoplastic cells in both diagnostic tissues (cervical lymph node and BM) demonstrated positivity for EBV. A diagnosis of concomitant EBV related discordant lymphoma (classical Hodgkin lymphoma (cHL) and Burkitt lymphoma (BL) in leukemic phase was made. Among all reported cases, this case is highly exceptional because it is the first case of discordant/composite lymphoma, with this combination and concomitant presentation. Since we are dealing with a case with an exceptionally rare combination, we found it significant to elaborate more on its clinical features, contributing factors including EBV role, response to treatment, complications, and prognosis

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## Case Report 16

**Title: Unusual cause of seizure.**

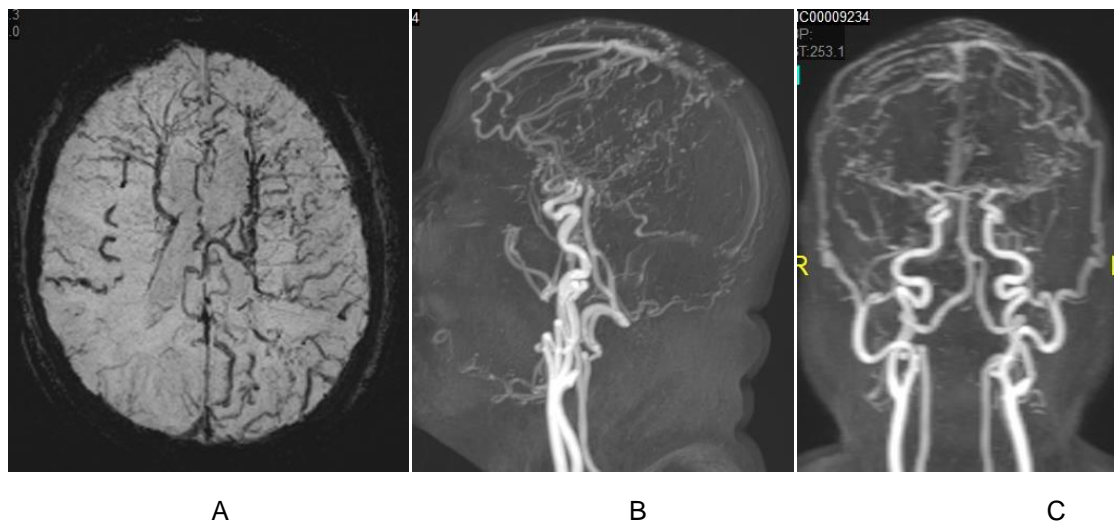
Authors: Nagham Sadik, Rania Elhassan, Khalid Salim.

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

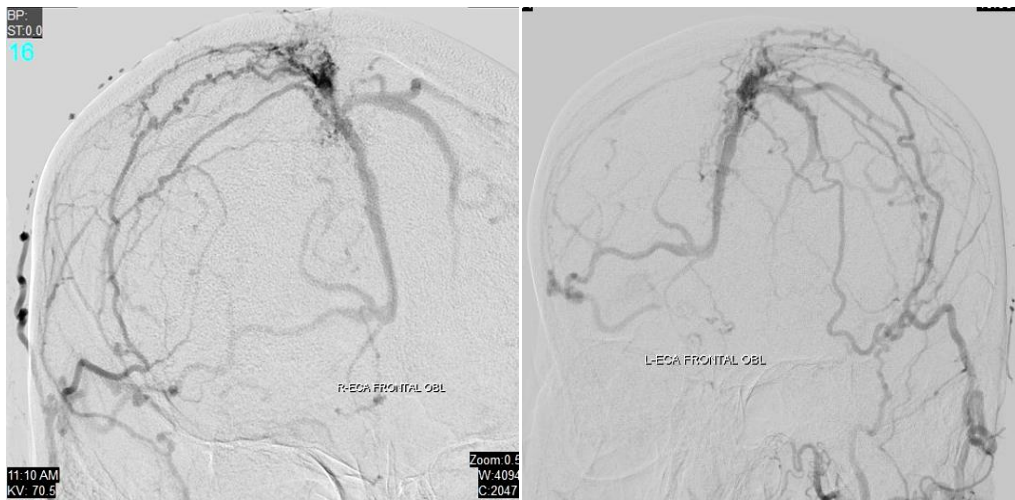
### Case Report

72 years old male presented with history of 2 attacks of seizure for the first time, patient was vitally stable and clinical exam did not show any abnormality. Basic investigation was normal. CT brain showed several tiny calcific densities are identified in left frontal and parietal lobe subcortical white matter, left periventricular and left occipital lobe. EEG was normal and MRI brain with contrast showed vascular malformation involving both cerebral hemisphere predominantly over left side. CT angiography showed fistulas connections between the right external carotid artery branches and superior sagittal sinus suggestive of Dural fistula. Pt was started on phenytoin, he had an embolization of the fistula with repeat of MRI/MRA which showed no areas of restricted diffusion and no evidence of recent hematomas or infarction. This case report focuses on dural fistula as a rare abnormality leading to seizure disorder in old man and shows effective intervention which lead to cure and prevention of further seizures.

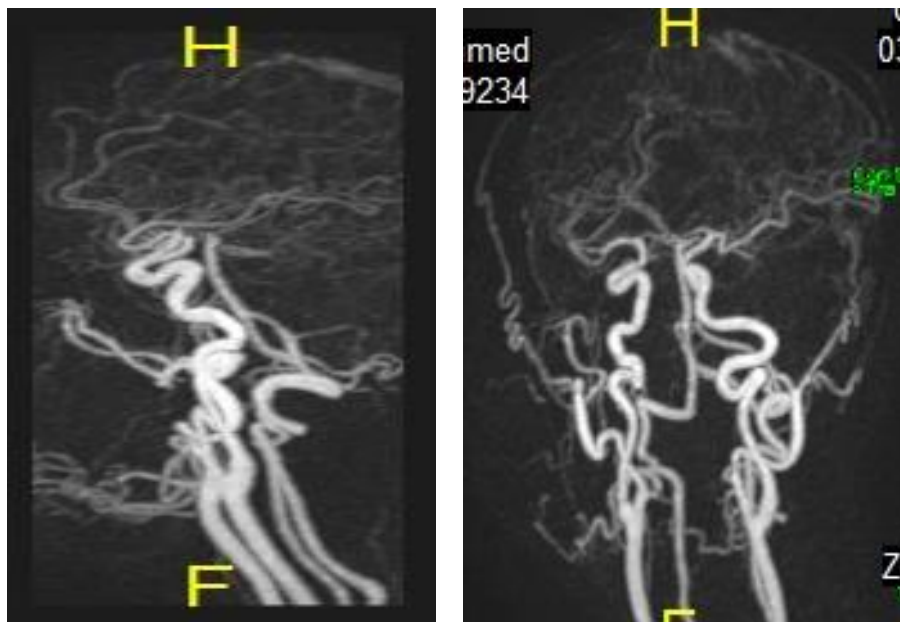
FIGURES:



(Fig A, B & C) MRI SWI sequence axial cut (a) showing dark flow void signal of abnormal prominent cerebral cortical perforator, trans medullary and ependymal veins more on the left side. Cranial non-contrast time of flight MRA lateral (b) and anteroposterior (c) showing superior sagittal sinus (SSS) Dural AV fistula with prominent external carotid meningeal feeding arteries, arteriovenous shunting and early filling of the anterior third of the SSS.



Catheter angiogram of bilateral external carotid arteries confirm SSS region AVF with feeding prominent meningeal arteries and early filling of the anterior third of the SSS



Cranial non- contrast time of flight MRA lateral (a) and anteroposterior (b) post interventional Onyx closure of the AVF showing reduced feeding meningeal arteries, absence of early filling of the anterior third of the SSS and better visualization of anterior cerebral and middle cerebral arteries branches.

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## Case Report 17

### **Title: Vancomycin-induced neutropenia associated with fever: A case report**

Authors: Adila Shaukat, Sumaira Kanwal Rafiqui, Muna Al Maslamani.

Department of Infectious disease, Hamad General Hospital, Doha, Qatar.

### **Case Report**

Vancomycin is a bactericidal glycopeptide antibiotic in the use since 1958. Vancomycin-induced neutropenia is an uncommon but potentially serious adverse effect of prolonged vancomycin therapy. There are reported cases of vancomycin-induced neutropenia over past 5 decades. However, only few mentioned concomitant drug-induced fever. We present a case of a 19 year old male who presented with disseminated methicillin-resistant *Staphylococcus aureus* (MRSA) Infection (bacteremia, septic pulmonary emboli with pneumonia, axillary and perianal abscesses ,septic arthritis of sternoclavicular joint). Since echocardiography was negative for any vegetation, decision to treat as possible infective endocarditis was made. He was started on IV Vancomycin and showed clinical response. While on treatment, he developed high-grade fever at day 9 and neutropenia at day 13. Workup for the cause of fever and neutropenia was inconclusive. Diagnosis of vancomycin-induced neutropenia and fever was considered as there was no alternative cause. After discontinuation of IV vancomycin and substitution with clindamycin, both fever and neutropenia resolved within 72 hours. Quick resolution of fever and neutropenia upon removal of causative drug supported the diagnosis. Vancomycin-induced neutropenia is delay in onset and reversible. The clinical pattern of vancomycin-induced fever coincides with vancomycin-induced neutropenia, typically starts after 7 days and resolves within 48-72 hours of discontinuation of therapy since vancomycin is widely used in clinical practice, this adverse effect should be monitored carefully. Many studies report immune mediated mechanism to be the cause. However, further studies need to be done in this regard to establish the exact mechanism.

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## Case Report 18

### **Title: Acute Myeloid Leukemia Presenting with Numb Chin Syndrome: A Case Report**

Authors: Shehab Fareed, Abdulqadir J. Nashwan, Dina Sameh Suliman, Friyal Ibrahim, Hisham El Khider, Deena Mudawi, Antoun Yacoub Abbas Moustafa, Mohamed A. Yassin.

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

### **Case Report**

Numb Chin Syndrome (NCS) (also known as; Mental Nerve Neuropathy (MNN) and earlier was named; Hypesthesia of the chin). NCS is a rare and underdiagnosed neuropathy of the inferior alveolar branch of the trigeminal nerve usually causing a lower lip and chin anesthesia or paresthesia. The syndrome is commonly associated with broad spectrum malignant and non-malignant conditions (such as trauma, infection, neurologic or odontogenic cause). This syndrome is most often a sign of malignancy presentation, progression, and relapse.

We describe the fourth case of acute myeloid leukemia (AML) presenting with NCS, and the second case involving AML with t(8;21) cytogenetic abnormality. We are reporting a case of a 30-year-old Indian male with no history of past medical problems. His initial presentation to a health center was with severe pain in both jaws preventing him from opening the mouth. He also had a fever during the previous month, with 4 kg unintentional weight loss. He also noticed decreased sensation over the entire mental area.

Examination revealed a very pale young man with swelling over the submandibular area bilaterally. The opening of the mouth was restricted due to pain. Examination of the mental area revealed decreased pain, touch and temperature sensations. Examination of other systems revealed no abnormalities.

An MRI of the skull was done which showed left mastoiditis, also showed subtle heterogeneous marrow signal of the bone marrow with no focal destructive bony lesions or soft tissue masses, with a possibility of underlying infiltrative process.

The aim of this case report with updated literature review is to highlight the significance of early recognition and diagnosis of NCS, particularly as a warning sign for malignancy.

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## Case Report 19

**Title: Fatal case of concomitant Invasive aspergillosis and Rhino cerebral Mucormycosis in a patient with Liver cirrhosis causing massive stroke: Case report and literature review**

Authors: Taher Sabobeh, Kamran Mushtaq.

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

### Case Report

**Introduction:** Concomitant Infection with aspergillosis and Mucormycosis is extremely rare even in immunocompromised individuals. Fewer than 10 cases have been reported in medical literature including pediatric population.

**Case Presentation:** We report a case of Gentleman with history of Liver cirrhosis secondary to Hepatitis C and newly diagnosed diabetes mellitus who, presented with black colored nasal discharge and right complete facial nerve palsy. On examination patient had right frozen eye with ptosis, right facial palsy and left lateral gaze palsy, later developed decreased level of consciousness.

**Results:** MRI Head showed complete occlusion of right Internal carotid, anterior, middle and posterior cerebral arteries resulting in massive Hemorrhagic infarction of the right cerebral hemisphere. Patient underwent endoscopic sinus biopsy and histopathology revealed concomitant aspergillosis and Mucormycosis. Patient was treated with IV amphotericin B and was admitted in medical ICU and his course was complicated by refractory septic shock. Unfortunately patient died after 3 weeks of initial presentation.

**Conclusions:** Mucormycosis and invasive aspergillosis individually are life threatening fungal infections. Concomitant infection is rare and often fatal if not treated recognized early and treated aggressively with IV antifungals and possible surgical debridement.

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## Case Report 20

### **Title: Imatinib Mesylate-Induced Tremor in a Patient with Chronic Myeloid Leukemia (CML).**

Authors: Shehab Fareed Mohamed, Mohamed Yassin, Deena Mudawi, Mohammad AJ Abdulla, Abdulqadir Nashwan.

Department of Haematology, Hamad Medical Corporation, Doha, Qatar.

### **Case Report**

Imatinib is a tyrosine kinase inhibitor (TKI). First time it was used to treat someone with chronic myeloid leukemia (CML) it was back in 1998. FDA approved the use of drug for several conditions like CML Philadelphia chromosome positive, and in Patients with Kit (CD117) positive unresectable and/or metastatic malignant gastrointestinal stromal tumors (GIST).

We report a 24-year-old Nepalese gentleman, previously healthy diagnosed in 2103 with of chronic myeloid leukemia (CML) He was presented at that time to Emergency with fever and itching, found to have high white blood cell count 132,000 with peripheral smear suggestive of chronic myeloid leukemia. His clinical examination was not remarkable. Bone marrow aspiration and biopsy was done with cytogenetic molecular testing to confirm the diagnosis. Patient BCR-ABL came out positive.

The diagnosis of chronic myeloid leukemia is confirmed and the patient was started on imatinib 400 mg once daily since November 2013. He is tolerating imatinib very well and achieving complete hematological and cytogenetic response. The patient was on imatinib 400 mg every other day in 2016. During routine follow up in the clinic, patient was seen and examined. The clinical examination revealed fine tremor. There are no signs or symptoms of hyperthyroidism.

While taking history from the patient regarding his tremor, he denies family history of tremor, alcohol consumption or using of any other medications. All other possible cause of tremor was excluded also.

In literature we found one case report about same findings in patient with GIST tumor using (TKI) imatinib. Tremor is one of the uncommon side effects of imatinib. It hasn't not been reported well in the literature, and maybe overlooked by the doctors. It might cause concern and worrisome for the patients. In the future need better reporting education and reassurance

### **References**

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## Case Report 21

**Title: Tuberculosis acid fast bacilli and granuloma in bone marrow biopsy.**

Authors: Shehab Fareed Mohamed, Aliaa Amer, Mohammed Abukhattab, Abdullatif Al Khal, Ruba Taha.

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

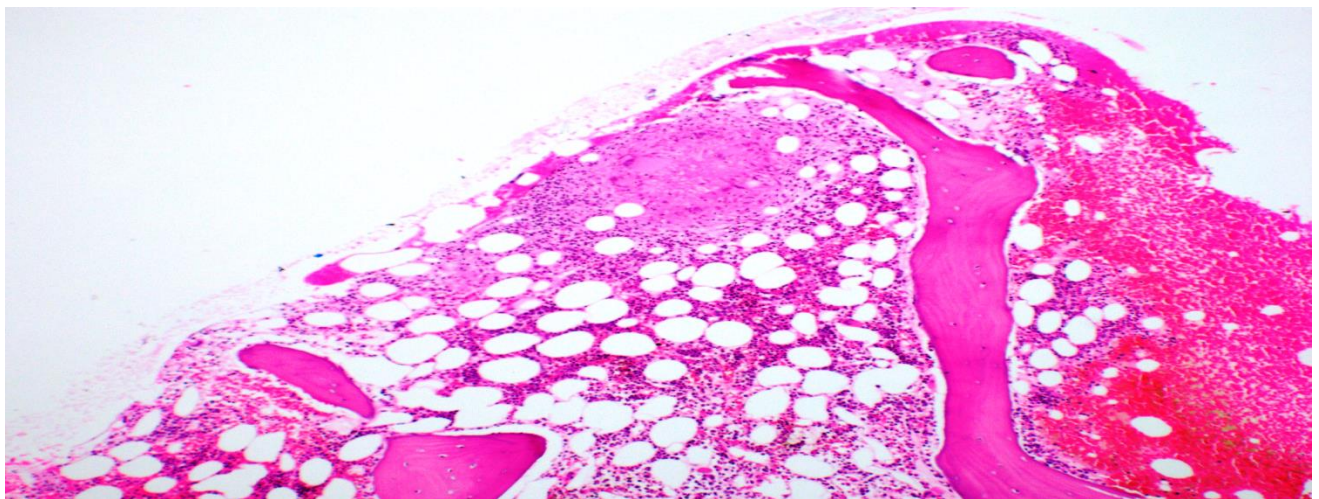
### Case Report

57 years old male was known case of diabetes mellitus (DM), alcoholic liver cirrhosis and acquired immune-deficiency syndrome (AIDS) on anti-retroviral therapy. He developed generalized fatigability recently and his lab showed progressive pancytopenia. His white blood count (wbc) was  $2 \times 10^3/\mu\text{L}$  neutrophil  $0.8 \times 10^3/\mu\text{L}$  and plt  $39 \times 10^3/\mu\text{L}$  and hemoglobin  $10 \times 10^3/\mu\text{L}$ . He also developed fever followed by alter level of consciousness.

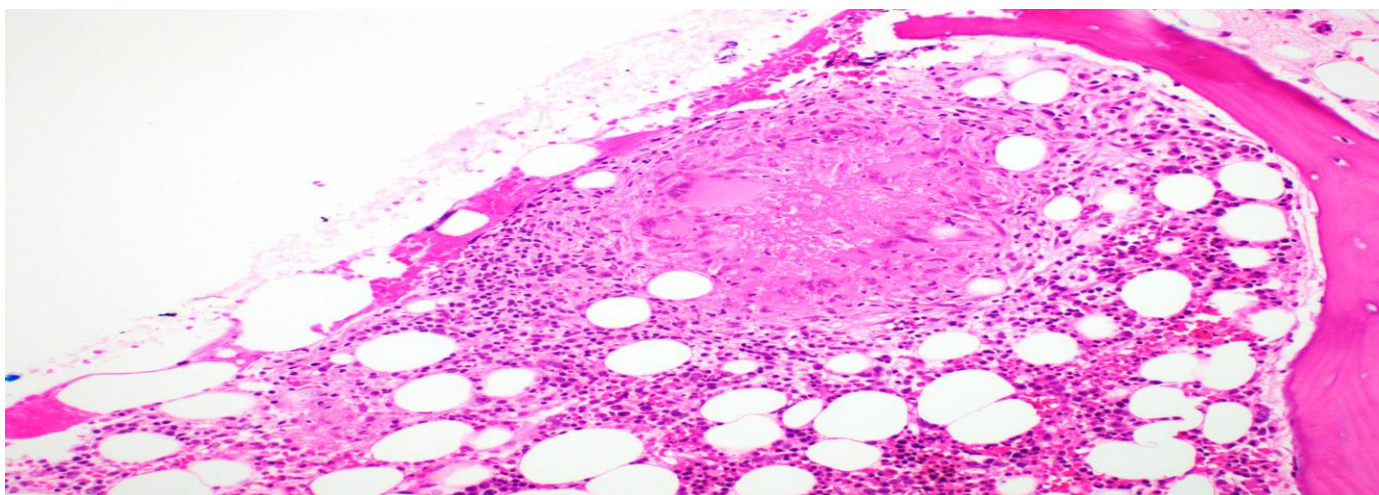
The MRI head showed Left thalamic small hematoma with intraventricular extension. Lumper puncture was not done initially due to thrombocytopenia and as a part of pancytopenia work up bone marrow was done.

The bone marrow showed caseating granuloma figure {1, 2} and single acid fast bacilli in figure {3}. . Later on his hospital course Lumbar puncture done and cerebrospinal fluids (CSF) PCR TB was positive. The case labelled as disseminated TB and started on Anti TB.

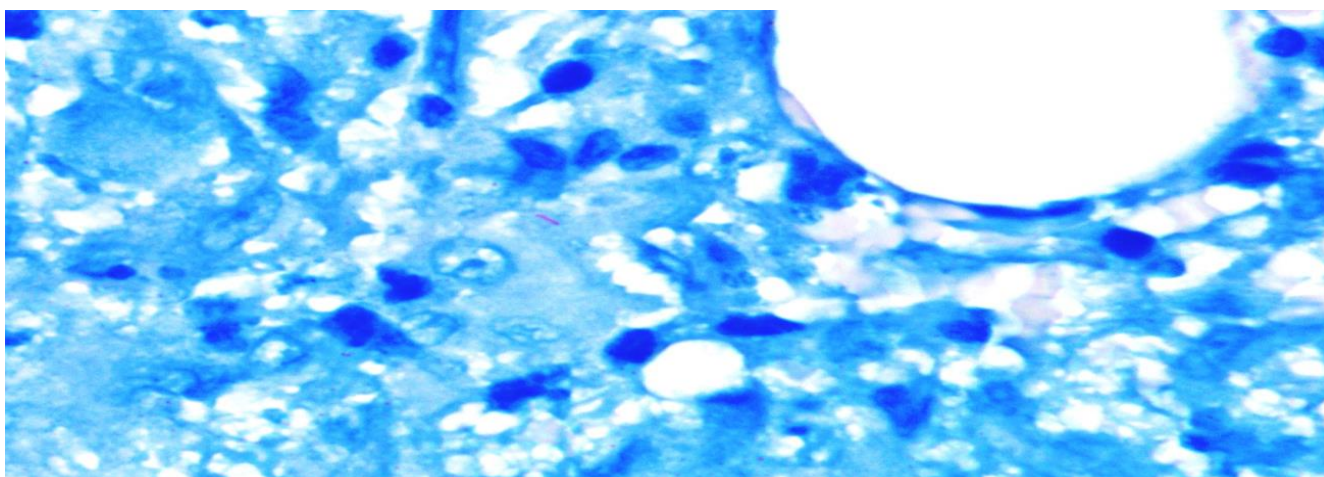
TB can cause pancytopenia by different mechanism. It can be due to hyeprsplensim, histiocytic hyperplasia, bone marrow fibrosis and infiltration by caseating or non-caseating granuloma. The incidence of bone marrow granuloma is 0.38 to 2.2 Granuloma of the bone marrow itself can be due to several different reasons e.g., tuberculosis, histoplasmosis, brucellosis, sarcoidosis, infectious mononucleosis, and malignant lymphomas or miscellaneous. Caseating necrosis is uncommon (29%) in general but more found in TB cases. Early treatment along with compliance can change prognosis.



**Figure 1 Lower power view 4x of an inter-trabecular necrotizing granuloma with central caseation in the bone marrow**



**Figure 2: Higher power 20x**



**Figure 3: ZN stain showing a single acid fast bacillus within the granuloma**

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## Case Report 22

### Title: Acute cholecystitis with portal and superior mesenteric vein thrombosis; An unusual finding

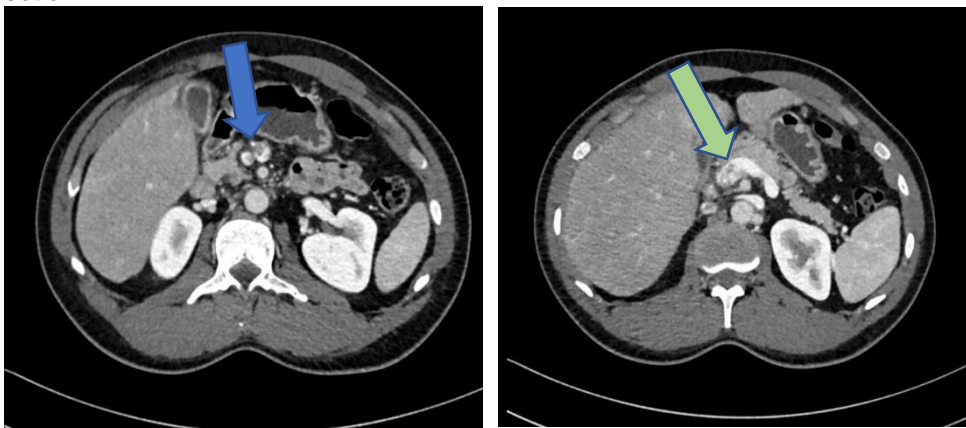
Authors: Haseeb Ahmad Chaudhary, Khaldon Obeidat, Anand Kartha.

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

### Case Report

Acute cholecystitis is a commonly encountered clinical problem. We report a rare complication of this common disease, namely portal vein thrombosis (PVT) and superior mesenteric vein thrombosis (SMV). An early recognition of this complication can be successfully treated medically with encouraging outcomes.

A forty-one-year-old gentleman initially presented with right upper quadrant pain and vomiting, a diagnosis of acute cholecystitis was made and he was given appointment for interval cholecystectomy. He later presented to us after two weeks with peri-umbilical abdominal pain. It was associated with nausea and vomiting. He was vitally stable with unremarkable general exam. His abdomen was soft, lax with minimal right hypochondrial tenderness, positive bowel sounds and normal digital rectal exam. Labs revealed normal CBC, coagulation profile, urea and electrolytes, LFTs and a CRP of 154 mg/l. Ultrasound from his initial presentation showed distended Gallbladder wall thickening measuring 7 mm with pericholecystic fluid suggestive of acute cholecystitis in addition to 7 mm calculus noted in the cystic duct. Portal vein: 10 mm (Normal). A hypodense lesion was seen in the left lobe of liver suggesting hemangioma. CT abdomen revealed persistent findings of acute cholecystitis and a partial PVT extending to SMV. Anti-thrombin activity was 101.2% (Normal), homocysteine: 8 umol/L (Normal), ANA, anti-cardiolipin antibodies, prothrombin gene mutation and factor V Leiden mutation were negative. MRI Liver ruled out the possibility of a malignancy. The patient was started on therapeutic anti-coagulation with bowel rest and IV anti-biotics. He was discharged symptom-free after six days when his INR was therapeutic.



PVT is a rare complication of acute cholecystitis. Our case is unique in a way that it was more extensive and partially involved the SMV. The early recognition of this rare complication with appropriate medical management can improve outcomes with a 2-year survival rate up to 77%, achieve recanalization in more than 90% of patients and shorten hospital stay.

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## Case Report 23

### Title: A Case Report on CUP

Author: Haroon Saleh, Irshad Badarudeen, Shafi Khan, Hanadi Alhamad.

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

### Case Report

A 67-year-old lady with history of long standing goiter was admitted with tonic -clonic seizure. She had intermittent fever with sweating, weight loss and loss of appetite. TFTs are normal. CT head showed hyper dense small lesion. CT neck/thorax/abdomen showed massive mass lesion involving the thyroid gland, multiple lung lesions, bilateral hilar lymph nodes, osteolytic lesion of the left side of the 4th thoracic vertebral body, right adrenal gland lesion and two breast lesions (probably fibroadenomas). FNAC of thyroid, Mammogram and Breast Biopsy were negative for cancer. PET scan confirmed cancerous growths. She deteriorated rapidly and was too frail for further invasive investigations. Therefore, she was managed conservatively/ palliatively.

About 3% of all cancer patients have cancer of unknown primary origin (CUP). These patients present with widespread metastatic disease for which a primary site cannot be detected at the time of diagnosis despite a detailed history & examination, and extensive investigations. Natural history differs from patients with known primary cancers e.g. early dissemination, clinical absence of primary tumor, unpredictability of metastatic pattern and aggressiveness of the disease itself. Patients present with an advanced cancer (> 50% presentations are with multiple site metastases). More likely to present as an emergency (57% compared to 23% of all other cancers). Approach to investigation is based on the classification and the location of the metastatic cancer. Average survival time is about 9 to 12 months after diagnosis of CUP.

Patients with Cancer of Unknown Primary (CUP) usually present in an advanced stage to be considered for curative treatment, and the goal may be to shrink the cancer for a time, in hopes of improving symptoms and helping to live longer.

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## **Case Report 24**

### **Title: A Case Report on Acute Liver Failure Secondary to HBV Reactivation in Immunosuppressed Patient**

Authors: Osama Idris, Shafi Khan, Hanadi Alhamad.

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

### **Case Report**

A 54 years old gentleman presented initially with sudden loss of consciousness was diagnosed as non-functioning pituitary macro adenoma. He underwent surgical resection and had a protracted SICU stay complicated with chest infection (viral-CMV/EBV) following which his functional status declined significantly. He was started on replacement hormonal therapy (Thyroxine 25mcg and Prednisolone 7.5mg). He was transferred to long term for supportive care. He deteriorated with new onset painless jaundice and was found to have deranged blood tests including liver function tests in keeping with Acute Liver Failure. Hepatitis viral studies revealed positive Hepatitis B Surface Antigen (HBS Ag), negative for HBsAb and had very high HBV DNA titers. Normal liver function was gradually restored during the course of antiviral therapy (Entecavir).

Acute Liver Failure is an uncommon disease with high morbidity and mortality. Hepatitis B Viral infection is a major public health problem worldwide. In US, Hepatitis B Virus Associated Acute Liver Failure represents about 7% of all liver failures. It can occur following acute or reactivation of chronic HBV infection. Hepatitis B virus (HBV) reactivation (HBVr; so called reverse seroconversion) is known complication of immunosuppressive therapy. Rates are varying from 30-60% in certain immunosuppressive drugs (such as rituximab). Most guidelines agree on recommendations for treatment prophylaxis for HBsAg positive patients with Lamivudine. If clinical indications for treatment then either tenofovir or entecavir should be considered.

HBV reactivation may lead to fatal liver disease in significant percentage of patients and carries poor prognosis. Therefore, screening for HBV before starting immunosuppressive therapy is prudent to prevent HBV reactivations along with consideration for anti-viral prophylaxis where appropriate.

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## **Case Report 25**

### **Title: To be or not to be a seizure – A case report**

Authors: Shafi Khan, Susan Osman, Haroon Saleh, Hanadi Alhamad.

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

### **Case Report**

A 79 years old lady with multimorbidities including advanced vascular dementia, recurrent multiple ischemic strokes, chronic Atrial Fibrillation and recurrent aspiration pneumonia. During the admission, she was noted to have low GCS 4 (unchanged compared to previous admission). She had involuntary movements in her right upper limb since last 6 months. It had been deemed secondary to Vascular Parkinsonism. Right upper arm involuntary, rhythmic to and from repetitive movement, settled only for few hours a day. She had rigidity in all limbs. An EEG showed signs of severe encephalopathy and PLEDS (Periodic Lateralization Epileptiform Discharges). CT showed old stroke in left frontal and right occipital lobe. She responded well to the Lamotrigine with significant improvement of her motor activity with no change in consciousness.

Epilepsy is the third most common neurological disorder of older adults. It is often difficult to diagnose in older people due to atypical presentations such as memory problems, confusion or sensory changes etc<sup>2</sup>.

In older people, Complex Partial Seizures are the most common type of seizures and stroke is the commonest cause of new seizures<sup>2</sup>. It remains a clinical diagnosis, hence history is crucial. General examination to rule out infection, toxins and systemic illness should be undertaken. EEG investigation should be regarded with caution due to increasing range of normal appearances in the older brain. Newer Anti-Epileptic Drugs such as Lamotrigine and Levetiracetam are considered safer and well tolerated in the older people due to minimal interactions.

Misdiagnosis rates in older people may be as high as 30%. High index of suspicion in older people with atypical presentations is required for an early diagnosis and management.

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## Case Report 26

### Title: A Case Report on Concealed Abdominal Infection

Authors: Mahmoud Rafae, Shafi Khan, Irshad Badarudeen, Hanadi Alhamad.

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

### Case Report

A 67 years old lady who has a background history of Type II DM, HCV positive, ESRD on regular dialysis and cognitive impairment was admitted with fever and poor oral intake. She had associated raised inflammatory markers in-keeping with sepsis. During the first admission, she received IV Meropenem for 4 days, she improved clinically so did the inflammatory markers. Meropenem was switched to Augmentin and was discharged home. After few days, she got readmitted with sepsis, Meropenem was restarted. Blood cultures were negative and CT abdomen and pelvis revealed Proctitis. Meropenem was administered for total of 14 days. She improved significantly with her oral intake and conscious levels. She was discharged home with no further readmissions.

The incidence of severe sepsis and septic shock is increasing in the older population. Although Pneumonia and UTI resemble vast majority of infections in elderly, intra-abdominal infections could be considered hidden source of sepsis and infection in elderly. Because of a variety of physiologic changes that occur as people age, elderly persons have different sites of infection within abdomen, may present with vague symptoms and longer histories, are more gravely ill, and, overall, have worse prognoses.

Older people with abdominal pain presenting to Emergency Department, 50% of them would require hospital admission. In a study of elderly patients, acute appendicitis and diverticulitis caused intra-abdominal sepsis in 28%, cholecystitis/ cholangitis in 12%, intra-abdominal abscesses in 9%. Proctitis is an inflammation of the rectal mucosa (within 15 cm of the dentate line). It is prudent to distinguish infectious from non-infectious causes of proctitis.

High index of suspicion is needed to diagnose intra-abdominal sepsis especially in older people with cognitive impairment.

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## Case Report 27

### Title: Wernicke's Encephalopathy after Sleeve Gastrectomy - A Case Report

Authors: Abdulaziz Zafar, Yazan Almohtasib, Merna Hussien.

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

### Case Report

20 year old Qatari gentleman, post Laparoscopic sleeve gastrectomy since April 2017, presented to the emergency department with dizziness.

Symptoms started 7 days prior to admission with numbness in feet, dizziness, intermittent diplopia, blurring of vision and nausea.

He lost 40kgs in 3 months and was non-compliant to vitamin supplements.

Neurologically: The patient was alert, conscious and oriented. O/E Pupils were reactive, no nystagmus or ophthalmoplegia, normal eye movement, no double vision. Cranial nerves 5/7/8/9/10/11/12 were intact. Speech was normal. Power was 5/5 in both upper and lower limbs. Sensations: decreased below umbilicus with hyporeflexia in right lower limb and areflexia in left lower limb. Planters were normal.

Laboratory investigations: CBC, U&Es and glucose are normal. Iron, TSH and Vit B12 are normal. Copper Level: 14.8 umol/L (11-22); Zinc Level: 15.50 umol/L(10.1-16.8); Selenium Serum 76 ng/ml; Vit D 17. CT & MRI Head with contrast: No significant finding apart from right maxillary sinus retention cyst.

Management: On clinical grounds the diagnosis of Thiamine deficiency was made and the patient was started on Thiamine therapy and Vitamin D replacement therapy with a dramatic response.

Discussion: Wernicke's encephalopathy is due to vitamin B1(thiamine) deficiency. It is classically, a triad of Ophthalmoplegia, ataxia and confusion. Only in 10% cases all the three signs are present. Other signs symptoms can be papilledema, blurred vision, vision loss, impaired or hearing loss, fatigability, apathy, dysphagia, Hypotension, Hypothermia, memory impairment and stupor can occur.

Investigations include Blood thiamine concentration, or Erythrocyte transketolase activity. Imaging studies can be helpful but still the main approach to diagnose thiamine deficiency is by clinical diagnosis especially in those with a known history of gastrectomy or known alcoholic patients.

In this case patient was clinically diagnosed with thiamine deficiency post gastrectomy and he responded very well to thiamine supplements with resolution of all his symptoms.

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## Case Report 28

### Title: Unilateral Grave's Disease – Two Cases

Authors: Wajiha Gul, Wajeeha Abu Haliqa, Daoud El-Khateb, Zeinab Dabbous.

Department of Endocrinology, Hamad Medical Corporation, Doha, Qatar.

### Case Report

Grave's disease is an autoimmune disorder that is characterized by hyperfunctioning of the thyroid gland, ophthalmopathy and dermopathy. Underlying etiology for this condition is thyroid stimulating immunoglobulins (TSIs) that bind to the thyroid receptors causing their persistent stimulation leading to diffuse enlargement of thyroid gland as well as the signs and symptoms of hyperthyroidism. Diagnostic investigations include radio-active iodine uptake scan that shows diffuse uptake in the gland, ultrasound and Doppler studies of thyroid gland also show bilateral diffusely increased hypervascularity of the gland. We report two cases of unilateral grave's disease.

FIRST CASE: 34 years old female presented with signs and symptoms of hyperthyroidism. Her TFT results showed TSH<0.01pmol/l, FT4: 64pmol/l, FT3 :14pmol/l. Ultrasound thyroid revealed asymmetrical unilateral increased vascularity of thyroid gland. Technitium uptake scan of thyroid gland showed diffuse asymmetrical enlargement of the gland with abnormally increased uptake in the left lobe, suggestive of unilateral Grave's disease involving the left lobe of thyroid. She was started on carbimazole and showed improvement with it.

SECOND CASE: 33 years old male referred with history of weight loss, tremors and symptoms of intestinal hurry as diarrhea. His TFT showed, TSH<0.01, FT4: 32 pmol/l, FT3:19pmol/l. Anti-thyroid peroxidase antibodies were positive (>2000 IU/ml). Ultrasound neck showed increased vascularity and enlargement of right thyroid lobe. Technitium uptake scan showed abnormally increased uptake in the right lobe with suppression of left lobe and findings mainly suggestive of unilateral Grave's disease involving the right lobe. He was started on anti-thyroid medications and improved with it.

CONCLUSIONS: Unilateral involvement of thyroid gland by Grave's disease is a very rare condition. There are very few reported cases of unilobar involvement of grave's disease with exception of cases of thyroid hemiagenesis or post-hemithyroidectomy.

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## Case Report 29

### Title: Acute Meningitis complicated by Transverse Myelitis; a Case Report

Authors: Bushra Minhas, Rania Mohamed Elhassan Eltahir, Ijaz Kamal.

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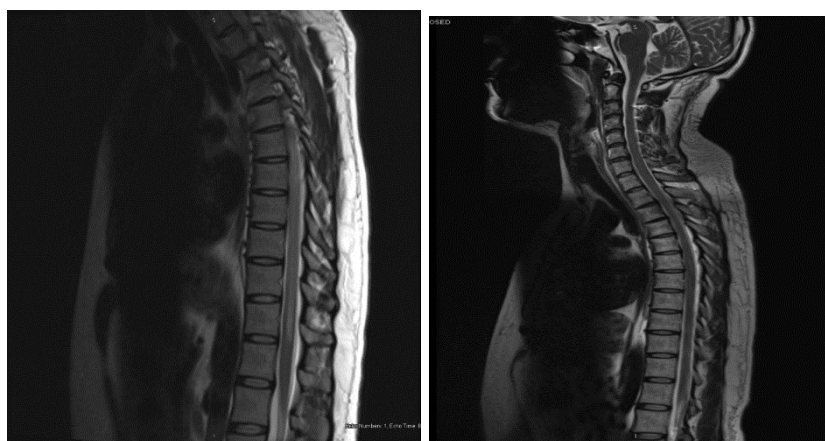
### Case Report

Myelopathy is infrequently reported complication of bacterial meningitis that can occur due to vasculitis, stroke, autoimmune myelopathy or direct infection of spinal cord.

Here, we report a case of 34 year old Indian male previously healthy presented with 3days history of headache, neck pain and low back-pain followed by progressive weakness in both legs and unable to pass urine. Neurological examination revealed neck stiffness and paraparesis (power grade of 2+ that progressed to zero in few hours of admission), hypotonia, hyporeflexia in bilateral lower limbs with equivocal plantars and reduced sensation with sensory level at T10. Urgent MRI spine showed abnormal cervicodorsal signals from C7-D11 representing transverse myelitis. CSF examination showed high WBC of 4278(90%neutrophils), high protein 1.88, low glucose 2.4(less than 50% of serum glucose), csf gram stain, culture, viral panel, AFB smear & PCR, VDRL were negative. MRI head was normal. The patient was started on treatment for bacterial meningitis and after ID consultation on anti-tuberculous medications considering high CSF protein and ethnic background.

Repeated CSF showed marked improvement with WBC count dropped to 77 (88%lymphocytes) and normalization of glucose and protein. Repeated MRI showed reduction of abnormal signal intensity.

Patient had marked clinical improvement in rehabilitation center 6 weeks after presentation with increase in power grade of 4/5 in bilateral lower limbs but bladder and bowel control were still absent. Repeated MRI at 6weeks showed complete resolution of abnormal findings seen before. He was discharged home on anti-tuberculous medications and tapering oral steroid with follow-up.



### Discussion

A variety of unusual neurologic complications can occur rarely in meningitis including spinal cord involvement. For the cases that have been reported in literature, quadriplegia or paraplegia was most frequent initial symptom. The most common residual deficits were spasticity, weakness, bowel and bladder dysfunction. This case emphasizes that in meningitis spinal cord lesions, though uncommon, do occur and should be considered.

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## Case Report 30

### **Title: Eosinophilic Pleural Effusion in a Patient with Bipolar Disorder Treated with Valproic Acid**

Authors: Tarek Taha, Amin Ur Rehman.

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### **Case Report**

Eosinophilic pleural effusion (EPE) is an uncommon subtype of exudative pleural effusion. (EPE) is defined as presence of fluid in the pleural space with more than 10% of the nucleated cells being eosinophils. About 25% percent of these cases are idiopathic with no known cause. Although rare, there has been number of cases of EPE associated with Valproic Acid (VPA).

This is a case report of a 40-year old Moroccan active smoker lady, admitted with 20 days' history of right sided chest pain and found to have unilateral right-sided EPE that has no obvious cause after investigation. She denied any cough, chills, fever, trauma, weight loss, recent travel or sick contact. She has been using VPA for many years and has increased its dosage recently for the treatment of bipolar disorder. CXR and CT thorax confirmed Right side pleural effusion and fluid analysis showed high protein (45 g/ml) and LDH (681.0 U/L) levels.

The fluid had WBC concentration of 1700/ $\mu$ l with 52% eosinophils and 40% lymphocytes. Cytology report of the fluid showed presence of inflammatory cells predominantly eosinophils and no malignant cells. The fluid was negative for bacterial culture, TB PCR, acid fast bacilli smear and culture. The rest of labs were within normal limits. The high eosinophilic count in the pleural effusion and the peripheral blood eosinophilia makes drug-induce EPE most likely. Oba et al showed in their meta-analysis that high eosinophilic count is strong negative predictor of malignancy induced EPE. Due to the low clinical and radiological suspicion of sinister etiology, doctors and the patient agreed for conservative treatment. In conclusion, VPA is a widely used medication with low profile side effect if used appropriately. Nonetheless, it is important for clinicians using it on regular basis to be familiar and correctly identify cases of EPE caused by VPA.

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## Case Report 31

### Title: Reversible Cardiac conduction defects –A rare presentation of Hyponatremia.

Authors: M Kappachali, S Syamala, H Saleh, J Parambil, H Almubarak.

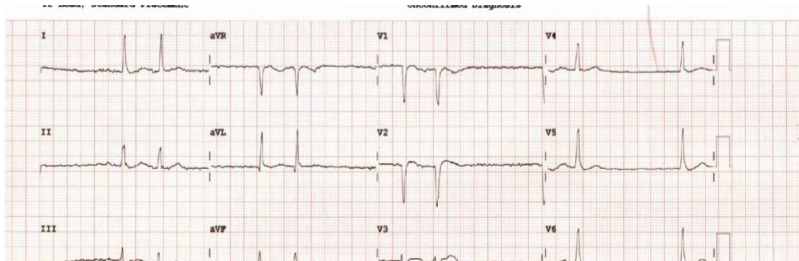
Department of Geriatrics, Rumailah Hospital, Doha, Qatar.

### Case Report

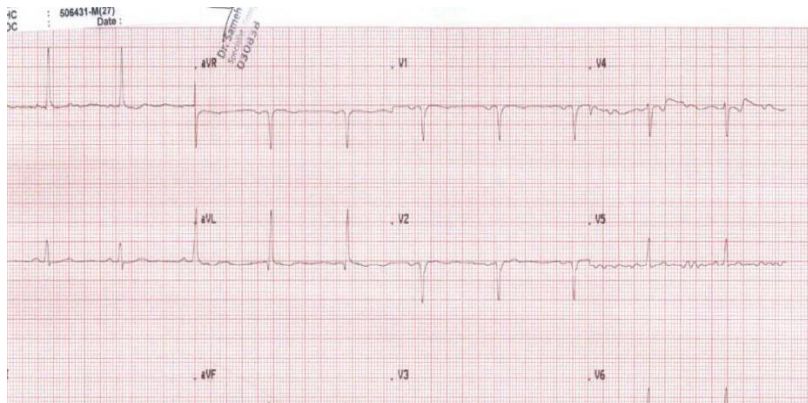
Hyponatremia, the most common electrolyte disorder in hospitalized patients, is usually asymptomatic. A few cases of cardiac conduction defects related to hyponatremia have been described in literature, but prevalence and mechanism has not been studied. It is usually difficult to single out hyponatremia as the cause of conduction defects. In this report we describe two cases of reversible cardiac conduction defect temporally associated with hyponatremia.

**Case 1:** A 77 Years old female patient with multiple comorbidities. She was not on any medications that affect cardiac electrophysiology. Patient developed bradycardia with irregular pulse. ECG showed sinus bradycardia with atrial premature complexes in couples. Sodium level was 110 mmol/L

Initial ECG:

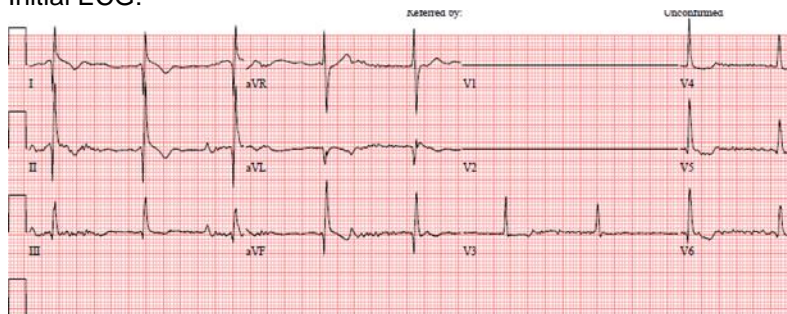


After hyponatremia corrected:

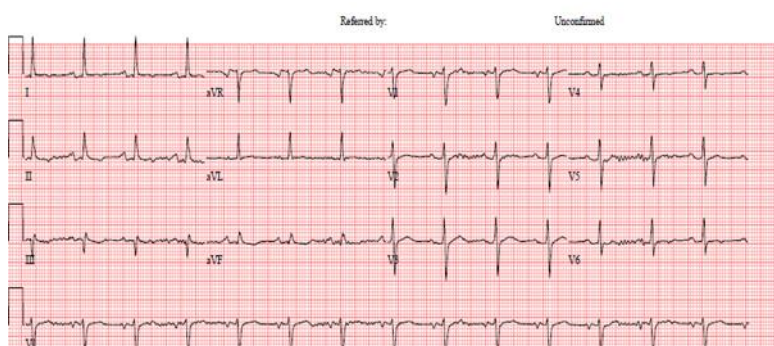


**Case 2:** 50 years old male, with history of severe Neuro Bechet's disease. Developed bradycardia; ECG showed complete heart block, serum sodium was 114 mmol/L.

Initial ECG:



After hyponatremia corrected:



In both cases there was conduction defect associated with severe hyponatremia which was reverted spontaneously with correction of hyponatremia. All other causes for conduction defects were excluded.

#### Discussion

Theoretically, reduction of the extracellular concentration of sodium should slow cardiac pacemaker activity. The close temporal association between the totally reversible conduction defect and hyponatremia strongly suggests that hyponatremia played a role in the pathogenesis of the conduction defect.

#### Conclusion

These cases illustrate that hyponatremia may cause severe but reversible cardiac conduction defects, and serum sodium should be monitored in patients with cardiac conduction defects and corrected. Physicians should have high index of suspicion for hyponatremia when faced with cardiac arrhythmias.

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## Case Report 32

### Title: Abstract Title: Sighting the Crescents of IgA: Implications and Potential Management

Authors: Sajid Q. Ansari, Essa Abuhelaiqa, Imad Mujeeb, Awais Nauman.

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

### Case Report

IgA nephropathy is the most common glomerulonephritis and 3rd most common cause of ESRD. A 26-year-old Nepalese man with history of intermittent hematuria presented with upper extremity skin rash. He was sent home on oral antihistamine from clinic. A week later, he was found to have BP 151/101, microscopic hematuria, proteinuria and a creatinine of 186 $\mu$ mol/L. His examination was unremarkable with resolution of rash. Furthermore, 12.5g of protein was found on 24-hour urine collection. Complement levels, ANCA, ANA, anti-GBM and viral serologies were negative. Chest x-ray was normal. Ultrasound showed normal sized kidneys, but had increased parenchymal echogenicity. Biopsy notable for 60% glomerular global sclerosis and 60% marked tubular atrophy and interstitial fibrosis of cortex (T:2). Among intact glomeruli there was mesangial proliferation (M:1) with 15% had glomerular segmental sclerosis (S:1) and 28% had glomerular cellular crescents (C:2). No signs of endocapillary proliferation observed (E:0). Immunofluorescence showed granular mesangial deposits with IgA. A diagnosis of crescentic IgAN was made. Treatment was started with IV pulse steroid for 3 days followed by an oral taper. His creatinine improved to 130mmol/L on discharge.

Prognosis of IgAN is variable with 20-30% progress to ESRD over 10 years. The Oxford MEST score (2009) is used to predict renal survival in IgAN. Patients with elevated scores, apart from endocapillary proliferation, have been described to have poor response to steroids and majority progress to ESRD. The updated 2016 classification, crescents, a rare finding in IgA, is now included as a prognostic factor. Outcomes following immunosuppressive treatment in crescentic IgAN are not defined.

We report a case of crescentic IgAN that wouldn't have been a glucocorticoid candidate based on the 2009 criteria. However, it was initiated given potential benefit with crescents. Despite having >50% sclerosis, a notable creatinine improvement was observed, suggesting immunosuppression role in crescentic IgAN.

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## Case Report 33

### Title: Hypokalemia - Phantom forgery

Authors: Sajid Chalihadan, Nishan K Purayil, Naushad Aboobacker, Naseem Amra, Firjeeth Paramba.

Department of Accident and Emergency, Alkhor Hospital, Doha, Qatar.

### Case Report

**Background:** Hypokalemic muscle weakness is flaccid, hyporeflexic, symmetric and predominantly involves proximal lower limbs. Isolated upper or lower extremity weakness is rare but present. **Objective-**The current report aims to raise awareness about isolated asymmetric weakness as presenting symptom in hypokalaemia.

**Case report:** A 20 year old male Indian patient presented with acute right wrist-drop. There was no similar history in the past, no comorbid illness and denies any medication or illicit drug intake. He works in a baking unit, exposing distal upper extremity to extreme heat. His blood labs revealed severe hypokalaemia and ECG showed u waves. He was managed with oral and intravenous potassium supplementation following which he totally restored his clinical deficit. **Discussion-**Acute flaccid weakness is a common presentation in the ER with causes along the spectrum of neurologic, metabolic or infectious etiologies. Acute hypokalemia is a rare and reversible cause of neuromuscular weakness, the causes of which are transcellular shift of K and renal or extra renal loss of K. The most prominent symptoms are neuromuscular, cardiovascular and gastrointestinal. Rarely it can be asymmetric and focal weakness. Very severe hypokalaemia may lead to total paralysis involving respiratory, bulbar and cranial musculature. Serum K<sup>+</sup> disturbances induce changes in membrane excitability, muscular in excitability to nerve stimulation and a reduced muscle fiber conduction velocity. The underlying mechanism to the selective or predominant involvement of one or more limbs in focal hypokalemic paralysis is unknown. The atypical presentation may delay diagnosis because hypokalemia is not considered in a case of asymmetric weakness and may result in fatal outcomes if not recognized early. It is therefore important to include electrolyte disturbances, particularly hypokalemia, in the initial differential diagnosis of focal or asymmetric muscle weakness.

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## **Case Report 34**

**Title: Who is real culprit? Acidosis or Hyperparathyroidism. Bilateral Achilles tendon spontaneous rupture in hemodialysis patient. First case from Qatar**

Authors: Saifat Ullah Khan, Fadwa Al Ali, Khaled Mahmoud, Mohammad Amin, Sajid Qamar, Aisha Elsayed, Kholoud Nassir, Sahar Ismail.

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

### **Case Report**

Patients on regular hemodialysis and those who has advanced renal failure not yet started on renal replacement therapy has high risk of tendon rupture although this is a rare situation.

Introduction: Cases of simultaneous Achilles tendon rupture in patients on regular hemodialysis have been described in the literature. They are rare however simultaneous spontaneous bilateral ruptures mostly occur in the weight bearing tendons. Only a few cases of spontaneous bilateral Achilles tendon ruptures have been reported in literature to date.

Case report: A 55 Year old male patient known case of End stage renal disease on hemodialysis since 2007. He is hepatitis B and C positive. He presented to us with a sudden onset of painful disability in the left posterior ankle developed while he was climbing the stairs. Ultrasonography revealed a complete disruption of Achilles tendon. He was admitted for Tendon repair. Four months later he presented once again to us with sudden pain and swelling in Right posterior ankle, developed with force full dorsiflexion of right foot. Parallel to surgical repair and physiotherapy we started to manage his tertiary hyperparathyroidism with referral to surgeon for parathyroidectomy. Other important finding in this patient was persistently low bicarbonate level 16 mmol/L. So patient was started on sodium bicarbonate oral Tablets.

Discussion: Tendinopathy is prominent in hemodialysis patients but the presentation with tendon rupture is rare. Secondary hyperparathyroidism plays a major role in rupture of tendons in dialysis patient beside other predisposing factors include being on long-term hemodialysis,  $\beta$ -2 microglobulin associated amyloidosis, It is unclear whether hepatitis C infection increase the risk of rupture. Our patient had more than one predisposing factor of these.

Conclusions: Tendon ruptures are uncommon injuries in hemodialysis patients that require early surgical intervention, physiotherapy, with management of predisposing factors in order to maximize functional outcomes for the patient. More aggressive approach to the correction of metabolic acidosis is proposed.

### **References**

None

## Case Report 35

### Title: Crescentic GN in Atypical Anti-Glomerular Basement Membrane (Anti-GBM) Disease

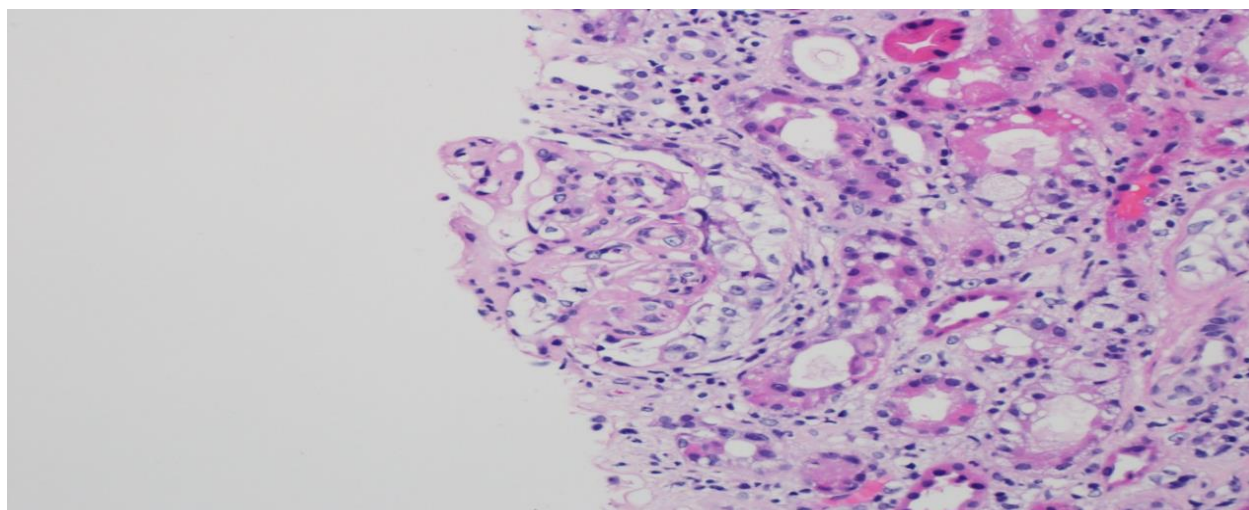
Authors: Mostafa Elshirbeny, Mohamad Alkadi, Imaad Mujeeb, Hassan Almalki, Omar Fituri.

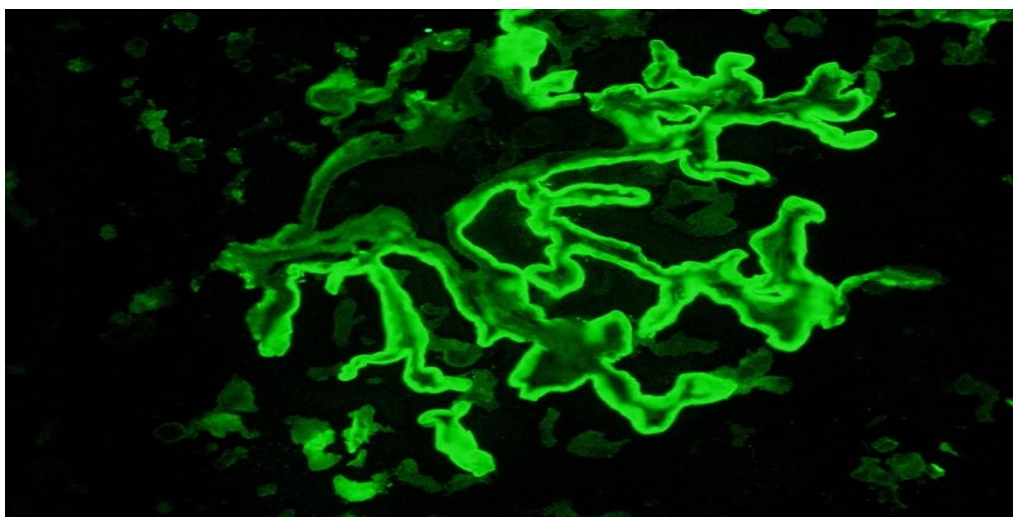
Department of Nephrology, Hamad General Hospital, Doha, Qatar.

### Case Report

Anti-GBM disease is estimated to occur in fewer than one case per million population. It is usually suspected in any patient with rapidly progressive glomerulonephritis (RPGN) with or without pulmonary (alveolar) hemorrhage. Diagnosis is classically made by detecting anti-GBM antibodies in serum and demonstrating linear GBM immunofluorescence staining on kidney biopsy. The prognosis of untreated RPGN due to anti-GBM disease is extremely poor with more than 90% of patients either become dialysis-dependent or die.

Here we present an atypical anti-GBM disease case of a 37 year-old man from Sri Lanka with no significant past medical history who presented in December 2016 with hypertension, acute kidney injury (creatinine 270  $\mu\text{mol/L}$ ), microscopic hematuria, heavy proteinuria (24-hr urine protein 15 gram/day) and bilateral lower extremity edema. All virology and immunology workup was negative including anti-GBM antibodies (done three times), ANA, ANCA, C3 and C4. The patient underwent kidney biopsy and light microscopy revealed diffuse proliferation in glomeruli with increased mesangial cellularity and diffuse crescents involving > 50% of glomeruli. Direct Immunofluorescent studies showed diffuse, global, strong (3+) linear GBM staining with IgG in glomeruli. Electron microscopy showed similar proliferative features and severe foot process effacement, but no immune complex, fibrillary, or paraprotein-related deposits in GBM or mesangial regions.





The patient was treated aggressively with IV pulse corticosteroids, oral cyclophosphamide, oral corticosteroids and 8 sessions of plasmapheresis and had good response to treatment. The patient's most recent creatinine, 9 months post treatment, was 127  $\mu\text{mol/L}$  and proteinuria was 8 grams/day.

Despite high sensitivity of ELISA in detecting serum anti-GBM antibodies, Anti-GBM disease shouldn't be ruled out completely without having a kidney biopsy because early aggressive treatment may prevent irreversible renal damage. This case is unique because atypical anti-GBM is extremely rare and having diffuse crescentic phenotype in isolated atypical anti-GBM disease hasn't been reported before.

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