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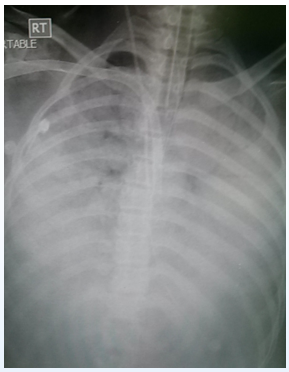

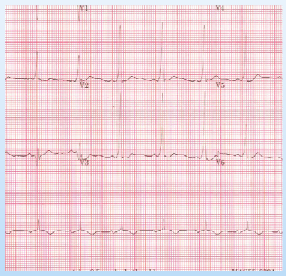

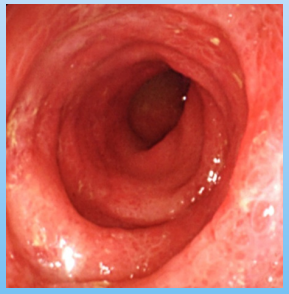

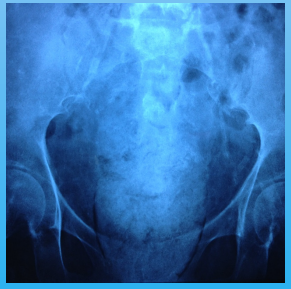

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Internal Medicine Symposium 2013
Theme: Acute Medicine
RIPAS HOSPITAL

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Brunei International Medical Journal (BIMJ)
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Aim and Scope of Brunei International Medical Journal

The Brunei International Medical Journal (BIMJ) is a six monthly peer reviewed official publication of the Ministry of Health under the auspices of the Clinical Research Unit, Ministry of Health, Brunei Darussalam.

The BIMJ publishes articles ranging from original research papers, review articles, medical practice papers, special reports, audits, case reports, images of interest, education and technical/innovation papers, editorials, commentaries and letters to the Editor. Topics of interest include all subjects that relate to clinical practice and research in all branches of medicine, basic and clinical including topics related to allied health care fields. The BIMJ welcomes manuscripts from contributors, but usually solicits reviews articles and special reports. Proposals for review papers can be sent to the Managing Editor directly. Please refer to the contact information of the Editorial Office.

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All manuscripts should be sent to the Managing Editor, BIMJ, Ministry of Health, Brunei Darussalam; e-mail: editor-in-chief@bimjonline.com. Subsequent correspondence between the BIMJ and authors will, as far as possible via should be conducted via email quoting the reference number.

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Original articles

These include controlled trials, interventional studies, studies of screening and diagnostic tests, outcome studies, cost-effectiveness analyses, and large-scale epidemiological studies. Manuscript should include the following; introduction, materials and methods, results and conclusion. The objective should be stated clearly in the introduction. The text should not exceed 2500 words and references not more than 30.

Review articles

These are, in general, invited papers, but unsolicited reviews, if of good quality, may be considered. Reviews are systematic critical assessments of literature and data sources pertaining to clinical topics, emphasising factors such as cause, diagnosis, prognosis, therapy, or prevention. Reviews should be made relevant to our local setting and preferably supported by local data. The text should not exceed 3000 words and references not more than 40.

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This section usually consist of invited reports that have significant impact on healthcare practice and usually cover disease outbreaks, management guidelines or policy statement paper.

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Audits of relevant topics generally follow the same format as original article and the text should not exceed 1,500 words and references not more than 20.

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Case reports should highlight interesting rare cases or provide good learning points. The text should not exceed 1000 words; the number of tables, figures, or both should not be more than two, and references should not be more than 15.

Education section

This section includes papers (i.e. how to interpret ECG or chest radiography) with particular aim of broadening knowledge or serve as revision materials. Papers will usually be invited but well written paper on relevant topics may be accepted. The text should not exceed 1500 words and should include not more than 15 figures illustration and references should not be more than 15.

Images of interest

These are papers presenting unique clinical encounters that are illustrated by photographs, radiographs, or other figures. Image of interest should include a brief description of the case and discussion with educational aspects. Alternatively, a mini quiz can be presented and answers will be posted in a different section of the publication. A maximum of

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This section include papers looking at novel or new techniques that have been developed or introduced to the local setting. The text should not exceed 1000 words and should include not more than 10 figures illustration and references should not be more than 10.

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Acknowledgements
Only persons who have made substantial contributions but who do not fulfill the authorship criteria should be acknowledged.

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Internal Medicine Symposium 2013: Acute Medicine

Organized by: Department of Internal Medicine, RIPAS Hospital

Lecture Theatre, Ministry of Finance - Sunday 17th November 2013

PROGRAMME

07.30-08.15AM:	REGISTRATION
08.15-08:45AM:	OPENING CEREMONY Recital of Al-Fatihah and Doa Welcome Speech by Organising Chair Person Opening Address by Guest of Honour
08:45-09:10AM:	Breathless Dr Mannoj Pethe, DORM MO
09:10-09:20AM:	Free Paper 1
09:20-09:45AM:	Hyponatraemia Datin Dr Hjh Haslinda Bte Hj Mohd Hassan, Endocrine Consultant
09:45-09:55am:	Free Paper 2
09:55-10:20AM:	Status Epilepticus Dr Anas Naomi Bte Dato Paduka Hj Harun, Neurology Consultant
10:20-10:40AM:	COFFEE/TEA
10:40-11:05-AM:	Biomarkers in Acute Sepsis Dr Rosmonaliza Bte Awang Asli, Infectious Disease Consultant
11:05-11:15AM:	Free Paper 3
11:15-11:40AM:	Common Acute GI problems in Brunei Dr Chong Vui Heng, Gastroenterology Consultant
11:40-11:50AM:	Free Paper 4
11:50-12:15PM:	Imaging in Acute Pancreatitis Dr Lim Kian Chai, Radiology Consultant
12:15-12:30PM:	QUIZ – SEPARATE PRIZES FOR DOCTORS AND ALLIED HEALTH!!
12:30-13:50PM:	LUNCH/ Poster Viewing
13:50-14:15PM:	Cardiac Arrhythmias: Anything different? Dr Sofian bin Dato Paduka Johar, Cardiology Consultant
14:15-14:25PM:	Free Paper 5
14:25-14:50PM:	Anything new in acute oncology? Dr Hj Muhammad Syafiq Bin Abdullah, Oncology Consultant
14:50-15:00PM:	Free Paper 6
15:00-15:30PM:	COFFEE/TEA
15:30-15:55PM:	Acute Kidney Injury Dr Liew Yin Ping, Nephrology Consultant
15:55-16:20PM:	Platelets are low. What do I do? Dato Seri Laila Jasa Dr Muhammad Arif Bin Abdullah – Haematology Consultant
16:20-16:35PM:	QUIZ ANSWERS
16:35-17:00PM:	PRIZE PRESENTATION AND CLOSING CEREMONY

3 CME points
6 CNE Points

Registration fee: Doctors: $20 Nurses & Allied Health Professionals: $15 (LIMITED SEATS - Early registration encouraged)
Please register with Shikin at PHY clinic, RIPAS 2242424 ext 6565 or 6249 – leave contact details by 12/11/2013.

Abstract/poster submission to Dr Chong Vui Heng: chongvuih@yahoo.co.uk by 07/11/2013
Successful abstracts selected for free paper presentation will be notified shortly.

Any queries, please contact Dr Irene: irene0110@yahoo.com or Dr Chee Shin: xiumola@yahoo.com

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Free Papers and Poster Presentations in the Internal Medicine Symposium 2013 held on the 17th (Sunday) November 2013

Renal denervation in Brunei Darussalam: Early experience

Sofian DP Hj Johar, Chong Chean Lin, Shuaib Siddiqui, Hj Nazar Luqman, Division of Cardiology, Department of Medicine, RIPAS Hospital, Brunei Darussalam

Introduction: Renal denervation (RD) therapy has recently emerged as a promising new modality for the treatment of resistant hypertension (RH). RD is carried out by application of radiofrequency energy via an ablation catheter to the abluminal surface of the renal arteries in order to target the rich plexus of nerve fibres located around the renal arteries. The ablation catheter is normally introduced percutaneously via a femoral artery. This results in reduction of sympathetic outflow from the kidney leading to a reduction in blood pressure. The pivotal SYMPLICITY-2 randomised trial comparing treatment against placebo showed a decrease in systolic blood pressure by 26 mmHg at 6 months. Therefore we sought to introduce this therapy to Brunei Darussalam as a promising new therapy in a difficult to manage population.

Materials and Methods: Patients were recruited from the Hypertension Clinic at RIPAS Hospital and defined as RH if BP was >140/90 mmHg on 3 or more medications including a diuretic or controlled on 4 or more medications. A comprehensive screening protocol was undertaken to exclude secondary causes of hypertension and delineation of renal artery anatomy suitable for ablation (diameter >4mm and length >20mm). Patients with impaired renal function (eGFR<45ml/min) were excluded. The procedure was carried out under general anaesthetic due to significant visceral pain during ablation. Anti-hypertensive medication was not adjusted following the procedure unless it was required on clinical grounds. Data are expressed as means ± standard deviation.

Results: From July 2013 to November 2013 a total of 15 patients have been referred for assessment and so far 6 have been found to be eligible for treatment. 9 out of 15 patients were male and 4 have been treated so far. Of the treated patients, 3 were male and 75% were diabetic. The mean age of the patients was 45.8 ± 9.2 taking a mean of 4.8 ± 1.0 medications. The mean eGFR was 63.3 ± 19.6 ml/min/1.73m2 pre-procedure. The mean BP pre-procedure was 163.3/103.3 ± 29.3/25.0 mm Hg. The mean BP post-procedure was 153.0/93.3 ± 21.0/22.2 mm Hg after a median follow-up of 46.5 (range 1 to 95) days however this reduction was not statistically significant.

Conclusion: Renal denervation appears to be a promising new therapy for the management of resistant hypertension. Longer term data are required in order to determine the overall clinical response prior to offering therapy to patients with less severe degrees of hypertension.
diagnostic tools.

Colorectal cancer screening among government servants in Brunei Darussalam

Chong VH [1], Suriawati Bakar [1], Rusanah Sia [1], James Lee [2], Norhayati Kassim [2], Lubna Rajak [2], Muhd Syafiq ABDULLAH [1], Chee Fui CHONG [3]
[1] Endoscopy Unit, Department of Medicine, RIPAS Hospital, [2] Health Promotion Centre, Ministry of Health, Department of Surgery, RIPAS Hospital, Brunei Darussalam.

Introduction: This study report uptake and result of colorectal cancer (CRC) screening of government servant as part of the Health Screening Program that was conducted in 2009.

Materials and Methods: Government servants above the age of 40 or with family history of CRC were screened with a single feacal occult blood test (FIT, immunohistochemistry). Among 11,576 eligible subjects, 7,360 (66.9%) returned their specimen. All the subjects with positive FIT (n= 142, 1.9%) were referred to the Endoscopy Unit for counselling for screening colonoscopy. Subjects with positive family history of CRC (n=329) or polyps (n =135) were advised to attend clinics to arrange screening.

Results: Overall only 17.7% of eligible subjects attended for screening; 54.9% (n = 79/142) of positive FIT, 8.8% (n=29/329) of positive family history of CRC and none with history of polyps (n= 0/135). Of these, only 54 patients (50.5%) agreed for colonoscopy, 52 (48.6%) declined as they were asymptomatic, and one was not offered (0.9%) due to his very young age. On screening colonoscopy, 12.9% (n=7) had advanced lesions including a sigmoid carcinoma in situ and six advanced polyps. The other findings included; non advanced polyps

(n=21), diverticular disease (n=11) and haemorrhoids (n=26). One patient who missed his screening colonoscopy appointment represented two years later and was diagnosed with advanced right sided CRC. All the advanced lesions were detected in patients with positive FIT, giving a yield of 20.5% for advanced lesions including cancers in 5.1% for FIT positive subjects.

Conclusion: Our study showed screening for CRC even with a single FIT was effective. However, the uptake rate was poor with just over half of patient agreeing for screening colonoscopy. Measure to increase public awareness is important. One limitation of our study is the small sample size.

Factors related to aspiration pneumonia in neurological patients in RIPAS Hospital

Suriyati Kalman, DSNA Pengiran Tengah, Division of Neurology, Department of Medicine, RIPAS Hospital, Brunei Darussalam

Introduction: This service evaluation study aimed at identifying factors related to aspiration pneumonia thus to promote strategies for prevention.

Materials and Methods: This was a retrospective review of 50 consecutive admissions with aspiration pneumonia from January 2012 to May 2013. Data were collected from the RIPAS Hospital Neurology Unit database and patient case notes.

Result: 74% were male, 26% female and average age was 65 years. 96% were diagnosed with aspiration pneumonia on admission and 4% developed aspiration pneumonia during hospitalisation. 14% deaths were directly due to aspiration pneumonia. Neurological diagnoses were stroke (58%), Parkinson's disease (28%), Epilepsy (16%), Dementia (14%) Myasthenia Gravis (4%), Motor Neuron Disease and cerebral palsy (2%). Co-morbidities included being bed-bound with reduced consciousness (36%) gastrointestinal bleed (12%), gastro-oesophageal reflux disease (4%). 70% were receiving bolus nasogastric (NG) tube feeding, 14% on percutaneous endoscopic gastrostomy (PEG) tube, 16% orally fed. Other factors identified included frequent constipation (46%), poor oral care (10%), being overfed (6%). 12% of patient's families had refused PEG tube insertion which we postulated may have been a factor.

Conclusion: Aspiration pneumonia remains a significant problem amongst our neurology patients with similar risk factors identified as in previous studies. We need to improve awareness of these risk factors amongst careers and healthcare professionals. Neurology nurses should therefore strengthen their role of education amongst ward-based nurses, community nurses and carers on aspiration pneumonia and prevention. Nurses may be trained to do bed-side dysphasia screening. A guideline for tube feeding should be implemented which should be regularly audited.

End stage renal disease in Brunei Darussalam - Report from the 1St Brunei Dialysis and Transplant Registry

Hla Aung, Jackson Tan, Department of Renal Medicine, RIPAS Hospital, Ministry of Health, Brunei Darussalam

Introduction: The Brunei Dialysis and Transplant Registry (BDTR) was established in 2011 to collect data from patients undergoing renal replacement therapy in Brunei Darussalam. The aims of the registry are to determine the disease burden attributable to end-stage renal disease (ESRD), determine factors influencing the outcomes of renal replacement therapy (RRT) and to benchmark against practices in other countries.

Materials and Methods: This is a multi-centre observational cohort study which analysed data provided by all participating centres at predetermined times and stages throughout the year. The registry population comprises of all ESRD patients treated at the Ministry of Health facilities in Brunei Darussalam. Data domains include general demographic data, medical history, ESRD aetiological causes, laboratory investigations, dialysis treatment and outcomes.

Results: There were 545 prevalent RRT patients in Brunei at the end of 2011. The incidence and prevalence of ESRD were 265 and 1250 per million population. Haemodialysis, Peritoneal Dialysis and Transplant comprised of 83%, 11% and 6% of the RRT population respectively. Diabetes Mellitus accounted for 57% of all new incident cases. Cardiovascular disease(43%) and sepsis (22%) were the main causes of deaths. Biochemical, haematologic and dialysis parameters are shown in the table .

Conclusion: The first BDTR has identified some deficiencies in the renal services in Brunei. However, it signals an important milestone for the establishment of benchmarked renal practice in the country. While there are some aspects of renal care that need improvements, we have taken heart from the fact that most of our results and practices

Table: Comparisons between haemodialysis and peritoneal dialysis patient.

	HD (haemodialysis)	PD (peritoneal dialysis)	All
Serum haemoglobin (g/dL)	11.1 ± 1.6	10.8 ± 1.4	11.0 ± 1.6
% patients on erythropoietin	97	87	94
% patients with Hb >10g/dL	76	72	75
Serum phosphate (mmol/L)	1.9 ± 0.5	1.9 ± 0.6	1.9 ± 0.5
Serum calcium (mmol/L)	2.3 ± 0.2	2.4 ± 0.2	2.3 ± 0.2
Serum Ca x Ph product	4.2 ± 1.2	4.6 ± 1.3	4.3 ± 1.2
Serum iPTH	199.5 ± 311.3	214.2 ± 319.5	202.5 ± 323.4
Serum albumin (g/dL)	33.1 ± 4.8	30.5 ± 5.2	32.7 ± 4.3
Serum cholesterol (mmol/L)	3.9 ± 1.1	4.8 ± 1.2	4.1 ± 1.1
Systolic BP (mm Hg)	149.0 ± 15.7	128.5 ± 15.9	145.7 ± 15.1
Diastolic BP (mm Hg)	83.1 ± 8.9	82.2 ± 8.8	82.8 ± 9.1
Urea reduction ratio	65.1 ± 9.1	NA	NA
Kt/v	NA	2.0 ± 0.3	NA
% patients on arteriovenous fistula (AVF)	71	NA	NA
Peritonitis rate	NA	24.5	NA

NA: Not available

are not inferior to those that are achieved by many developed and established countries. We hoped to maintain and improve our registry for years to come and will strive to align our standards to acceptable international practice.

Early outcomes of extracorporeal membrane oxygenation support as salvage therapy for patients with acute respiratory distress syndrome

Chee Fui CHONG [1], Huasana Hassim [1], Mohammad Kasim Mohd Yassin [2], Maung Newin [3], Suresh Shindhe [3], Ninan Thomas[3], Zulaidi Abdul Latif [2], Ahmad Yazid Abdul Wahab [2]
[1] Thoracic Unit, Department of Surgery, [2] Department of Anaesthesia and [3] Department of Critical Care Medicine, RIPAS Hospital, Brunei Darussalam.

Introduction: Adult respiratory distress syndrome still carries a very high mortality at >80% if treated with conventional therapy. Extra Corporeal membrane oxygenation support (ECMO) is now increasingly utilized to support patients with ARDS. We evaluate our early results with using ECMO as salvage therapy for patients with severe ARDS in RIPAS Hospital.

Materials and Methods: Our ECMO programme was set up in May 2011 after the H1N1 pandemic outbreak. Data for patients with ARDS supported with ECMO from May 2011 were retrieved and analysed to assess our early outcomes.

Results: A total of 14 patients with ARDS were supported with ECMO following failed maximum mechanical ventilator support since the programme was started. Mean age of these 14 patients (8 male and 6 female) were 41.3 ± 17.3 years (range 14.7-68.5 years). Primary diagnoses leading to ARDS were SLE pneumonitis (4) and pneumonia due to Aspiration (2), mycoplasma (1), Listeria (1), Malaria (1), post road traffic accident (1), Acinetobacter pneumonia (1), necrotising pancreatitis (1) and unknown (2). All were primarily venovenous ECMO support except for three patients who were put on Venoarterial ECMO support for cardiorespiratory support but in 2 patients, VA ECMO was later converted to VV ECMO. Mean duration of ECMO support was 14.9 ± 13.9 days (range 1-54 days). Seven (50%) patients was successfully decannulated with a mean support of 12.0 ± 8.7 days. Four (28.6%) patients survived to discharge home. Complications encountered were bleeding from cannulation sites, retroperitoneal haematoma and accidental avulsion of pump circuit. All pump technical problems were successfully attended to by the cardiovascular surgeon.

Conclusion: Our early results of using ECMO as salvage therapy for patients with ARDS can reduce mortality by about 30%. In 50% of the patients, ECMO can be used to support until acute episode is over and the ECMO is weaned off but outcome of the patients are dependent on their primary disease. Outcome of ECMO support for patients with SLE is very disappointing.

Overview of renal transplantation in Brunei Darussalam

Dalinatul Ahmad, Roshima Kamal, Jackson Tan
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Introduction: Renal transplantation is currently not performed locally in Brunei Darussalam. All renal transplantation procedures for Bruneian patients were performed abroad. The current transplant rate for the country is 9 per million population.

Materials and Methods: Data was retrieved from the record kept by the Department of Renal Medicine.

Results: There were 33 renal transplant patients in Brunei at the end of 2012. Singapore (66.7%), China (18.2%) and Malaysia (6.1%) were the most popular transplant destinations. Glomerulonephritis (63.7%) and diabetes mellitus (15.2%) are the two most common aetiological causes of end stage renal disease in transplant patients. Genetically related live donor, emotionally related live donor and commercial live donor account for 45.5%, 27.3% and 27.3% of all transplantation. Cyclosporin, tacrolimus and everolimus were used in 51.5%, 42.4% and 6.1% of patients. Mycophenolate Mofetil, Mycophenolic acid and azathioprine were used in 54.5%, 11% and 15.2% respectively. 32 (97%) of all transplant patients have chronic kidney disease stage 3 and below. Mean serum creatinine, haemoglobin, calcium and phosphate were 134.9 ± 50.3 mmol/l, 12.9 ± 1.6 g/dl, 2.3 ± 0.2 mmol/l and 1.0 ± 0.2 mmol/l. Mean systolic and diastolic blood pressure were 127.6 ± 14.6 and 77.6 ± 9.0 mm Hg. Our 5 and 10 years overall graft survival rates were 91.1% and 81.2% respectively. The 5 and 10 years overall patient survivals were 93.3% and 90.1% respectively

Conclusion: Brunei Darussalam is in the process of setting up its own independent transplant centre. It is hoped that this will help to improve transplant rate of ESRD patients in the future and to reduce reliance on overseas transplantation.

Prevalence of Brugada electrocardiograms and Brugada syndrome in Brunei Darussalam

Bee Ngo Lau, Nazar Luqman, Sofian Johar
Division of Cardiology, Department of Medicine, Raja Isteri Pengiran Anak Saleha Hospital, Bandar Seri Begawan, Brunei Darussalam

Introduction: Brugada syndrome is a major cause of sudden cardiac death in Asia. The aim of the study was to describe the clinical profile of Brugada syndrome patients in Brunei Darussalam.

Materials and Methods: From March 2006 to May 2013, patients presenting to a local tertiary referral centre in Brunei Darussalam and identified as having Brugada electrocardiograms (ECGs) type 1 to type 3 were included in the study. Patients with type 2 or 3 Brugada ECGs underwent provocative testing with up to 400mg of oral flecainide. Patient data was obtained through review of medical records.

Results: 40 patients were identified having Brugada ECGs (mean age 40.7 ± 10.9 years, 77.5% male). At baseline, 12 patients showed spontaneous type 1 ECGs, 13 patients showed type 2 ECGs, and 13 patients showed type 3 ECGs. 1 patient's baseline electrocardiogram (ECG) could not be commented on owing to missing data however limited record showed patient had positive flecainide challenge. 1 patient who has a family history of Brugada syndrome had normal baseline ECG but screening flecainide challenge was positive. 16 patients fulfilled the diagnostic criteria of having Brugada syndrome (mean age 36.4 ± 10.0 years, 62.5% male). Out of the 16 patients, 10 patients had spontaneous type 1 ECGs, and 6 patients had flecainide-induced type 1 ECGs. 1 patient whose baseline ECG could not be commented on, and who had a positive flecainide challenge died 3 years after the flecainide test from unknown causes. 3 patients had syncope, 1 patient survived cardiac arrest, 6 patients had non-specific cardiac symptoms, and 5 patients were asymptomatic. 7 patients had a positive family history of sudden death. Spontaneous type 1 ECGs were observed in the 3 patients who had syncope, and the 1 patient who was a survivor of cardiac arrest. An electrophysiological (EP) study was performed in 17 patients, and 10 patients had a positive EP study. Out of the 10 patients, 8 patients had spontaneous type 1 ECGs. 7 patients who had a positive EP study received an implantable cardioverter-defibrillator (ICD), one of whom was a survivor of out-of-hospital cardiac arrest. 3 patients with a positive EP study did not receive ICD due to clinical reasons and financial constraints. 1 patient had a positive flecainide test, and a negative EP study but received an ICD due to a strong family history of premature sudden death. During a mean follow-up of 51.9 ± 33.1 months, 1 patient with asymptomatic spontaneous type 1 ECG, and without a family history of sudden death developed an out-of-hospital cardiac arrest with subsequent hypoxic brain damage, and died two years later. None of the patients with an ICD had appropriate therapy for ventricular tachyarrhythmias. 1 patient had multiple inappropriate shocks from his ICD due to atrial tachyarrhythmias. One patient had an ICD lead fracture leading to lead extraction six years following initial ICD implant.

Conclusions: In this hospital-based study, Brugada electrocardiograms and the Brugada syndrome were found to be prevalent at a tertiary referral centre in Brunei Darussalam. There were two deaths in the patients with Brugada syndrome. Patients having spontaneous type 1 ECGs were prone to syncopal attacks, positive programmed electrical stimulations, and fatal arrhythmic events. The rate of appropriate therapy in patients with ICD appeared to be low suggesting the need for improved risk stratification.

Outcome of Elective Electrical Cardioversion in patients with Persistent Atrial Fibrillation 2012-2013, RIPAS Hospital

MMR Chowdhury, Bee-Ngo Lau, Hj Luqman Nazar, Sofian Johar
Division of Cardiology, Department of Medicine, Raja Isteri Pengiran Anak Saleha Hospital, Bandar Seri Begawan, Brunei Darussalam

Introduction: In 1956, alternating current (AC) for transthoracic defibrillation was first used to treat ventricular fibrillation in humans. Following this breakthrough, in 1962 direct current (DC) defibrillators were introduced into clinical practice. Subsequent studies in the early 1960s demonstrated that electrical cardioversion could abolish other cardiac arrhythmias in addition to ventricular fibrillation. Electrical cardioversion is an effective treatment for persistent atrial fibrillation (AF). It has become a routine procedure in the management of patients having persistent AF. According to existing guide-

line, it is performed with oral anticoagulation and coagulation together with rhythm-control drug post cardioversion.

Materials and Methods: This data was collected from patients with persistent AF with duration of 6 to 48 months who underwent electrical cardioversion. Electrical cardioversions were performed with oral anticoagulation and rate control drugs for 4 weeks prior to the procedure, and followed by another 4 weeks of oral anticoagulation together with rhythm-control drug post cardioversion as per recommendation of existing guideline. All patients had baseline trans-thoracic echocardiograms (TTEs) to measure LA size. All had trans-oesophageal echocardiograms (TOEs) before the day of cardioversion to exclude LA and LAA thrombus. Target INRs had to be more than 2. All patients had IV sedation (midazolam) and analgesia (fentanyl) administered by the anaesthetists before the procedure. Electrode Pads (8 x 12cm) were placed antero-posteriorly. Energy delivered was administered starting with biphasic 200J up to a maximum of 360J for a total of three shocks for patients who failed to cardiovert after the first shock.

Results: A total number of 12 patients (9 males and 3 females) underwent electrical cardioversions for persistent AF. The age range was between 48 years and 67 years. The measured LA size ranged from 31mm to 56mm. 9 patients (75%) cardioverted to sinus rhythm after a single shock of 200J. The remaining 3 patients (25%) did not cardiovert after three consecutive shocks of 200J, 360J & 360J. One patient (11%) had recurrence of AF within 8 months of initial cardioversion with single 200J which successfully cardioverted in a second attempt with single shock of 360J. 3 patients (25%) developed immediate complication of hypotension and bradycardia post cardioversion which responded well to fluid challenge. 1 patient (8%) required brief period of dopamine infusion.

Conclusion: Cardioversion is a relatively safe and simple method to revert persistent AF to sinus rhythm. It minimises the risk of side effects of anti-arrhythmic drugs, reduce the incidence of stroke and bleeding risk due to anti-coagulation.

Common factors relating to breakthrough seizures in male patients admitted to RIPAS Hospital

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Introduction: Breakthrough seizures may occur in epileptic patients on a stable anti-epileptic drug (AED) regime due to missed dose, incorrect medication timing, sub-optimal medication, non-compliance, sleep deprivation, stress, alcohol or drug use, drug interactions, etc. The aim of this study is to identify the most common causative factors of male patients and consider how to reduce their occurrence.

Materials and Methods: Patients were identified from ward registration data to the male medical ward in RIPAS Hospital with breakthrough seizure from April 2011 until April 2013. Data from case-notes included age, medications, social factors, serum medication level and other potential trigger factors.

Results: 22 patients were identified aged between 17 to 88 years old. 14 patients had low serum AED levels likely due to non-compliance. 2 had missed doses for a few days. Only 2 patients had breakthrough seizure secondary to sub-optimal medications. 4 patients were admitted with fever. All patients had either more than one type of AED or more than one dose per day.

Conclusion: Non-compliance remains the biggest factor in our patients with breakthrough seizures (64%). The nursing role through giving information and providing moral support should be emphasised particularly the Epilepsy Specialist Nurse (ESN). This includes nurse-led clinics, educational talks, epilepsy support groups and public education through media and information leaflets. This preliminary study will form the basis of future prospective studies in our hospital that would include female patients and explore social factors in greater depth.

Parkinson's Disease Patients Admitted to RIPAS Hospital – Factors relating to admission and the nursing role

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Introduction: Parkinson 's disease (PD) is a progressive neurological condition caused by insufficient dopamine from death of dopamine-producing cells in the brain. In Brunei Darussalam no formal incidence or prevalence data is available but based on a population of 348,200, 20 new cases are expected per year. The aim of this study was to identi-

tify key reasons for PD patients' medical admissions to RIPAS Hospital and important aspects of the nursing role with PD patients and family members.

Materials and Methods: Patients were identified from the Neurology Unit inpatient database from January 2012 to January 2013. We reviewed patients' case notes and performed a literature review.

Results: 17 PD patients were admitted in this period; eight were male while nine were female with age range of 51 to 93 years (mean age 73.5). Nine were admitted due to aspiration pneumonia, three with constipation, two with increasing rigidity, one patient with dyskinesia, one patient with frailty and one patient with behavioural disturbance.

Conclusion: Our PD patients requiring admission tended to be elderly and hence good geriatric care is vital. There was a wide range of conditions associated with hospital admission amongst PD patients but most commonly relating to aspiration and constipation. Impairments of chewing and swallowing are common in PD. Liaison between the Neurology nurse and Speech Language Therapy early in the admission is vital. Patients may need insertion of naso-gastric or percutaneous endoscopic gastrostomy or naso-jejunal feeding tubes for safe swallowing. Neurology nurses need to educate PD patients and families regarding prevention and management of these complications.

Reliability of Tuberculin Skin Test (Mantoux) in a haemodialysis population

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Introduction: Tuberculin Skin Test or TST (Mantoux) is the usual screening test for detection of tuberculosis in the normal population. Haemodialysis patients usually do not mount an adequate TST response due to their inherent anergic state and require a two stage screening process. The second stage (boost test) is usually repeated after 1-3 weeks. We had two recent cases of active tuberculosis amongst our haemodialysis patients and staff. This prompted our Ministry of Health to conduct compulsory screening tests for all the existing haemodialysis patients and staff to identify active latent disease. The main objectives of this study are to:- 1. To compare the rate of positive TST in haemodialysis patients and nursing staff, 2. To assess the rate of positive TST in haemodialysis patients after a boost test, 3. To assess the true positive TB rate for patients with positive TST in haemodialysis patients and 4. To assess side effects amongst haemodialysis patients who underwent TST

Materials and Methods: All haemodialysis patients and staff in Brunei Darussalam underwent TST tests in July 2012. Patients were encouraged to have two stages of TST and those with a previous history of TB were excluded. Differences between groups were calculated by the Student's t-test and a two tailed p value of less than 0.05 was considered statistically significant.

Results: Demographic details are summarised in table 1. Table 2 showed the % of patients and staff with different sized weals after TST. Staff were more likely to develop weals of > 0mm after TST ($p < 0.05$). A total of 11 patients (3.4%) and 2 staff (2.5%) were positive (defined as greater than or equal to 10mm) after two rounds of TST. 5 of the 11 positive patients (45.5%) and none of the 2 positive staff were diagnosed with active TB after further investigations. Sub-analysis of haemodialysis patients with positive and negative TST did not reveal any positive associations with age, sex, primary renal diagnosis, diabetes mellitus, serum albumen and serum haemoglobin. Apart from minor discomfort and itch, no significant side effects were reported after TST.

Conclusion: We concluded that HD patients do not mount an adequate TST response when compared to staff (who serve as our controls). Only 3.4% of our patients had positive TST tests. Positive TST has a sensitivity of 45.5% in our haemodialysis population in diagnosing active TB.

Table 1: Demographic details of subjects.

Total patients	348
Male	51.11%
Mean age	47.90 ± 14.61 years
Median age	48 years
Malay ethnic group	95.11%
Duration on dialysis	5.70 ± 4.76 years
Presence of Diabetes Mellitus	58.05%
Presence of Hypertension	91.95%
Diabetes Mellitus as primary diagnosis	51.15%
Hypertension as primary diagnosis	20.69%
Serum albumin	33.7 ± 4.2 g/l
Serum haemoglobin	11.2 ± 1.5 gm/dl

Table 2: Response to the Tuberculin Skin Test (TST).

	% with 0mm weal	% with 1-4mm weal	% with 5-9 mm weal	% with >= 10mm weal
Patients after 1st TST (n=328)	90.5	5.7	2.0	1.7
Patients after 2nd TST (n=108)	85.9	4.6	1.9	4.6
Staff (n=82)	60.9	11.0	25.7	2.4

A retrospective comparative study on the efficacy of sevelamer carbonate (Renvela), sevelamer hydrochloride (Renagel) and calcium carbonate (Titralac) in dialysis patients

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Introduction: Calcium Carbonate is the first line hyperphosphataemic therapy in our haemodialysis population. Sevelamer is generally used in our patients with tertiary hyperparathyroidism or resistant hyperphosphataemia. Over the past year, two generations of sevelamer (carbonate and hydrochloride) were used in our patients. Sevelamer carbonate (Renvela) is an improved version of sevelamer hydrochloride (Renagel) that uses an alkaline buffer to neutralise excess acids often seen in patients with chronic kidney disease. Both formulations have reported favourably on improvement in vascular calcification, serum uric acid and total cholesterol level. Previous literature reports have favoured the carbonate formulation as it reduces gastrointestinal side effects and improved serum bicarbonate levels. Both formulations were reported to have similar levels of efficacy. To the best of our knowledge, similar comparative studies have not been done on an Asian population. The main objectives are to assess the efficacy, tolerability and safety of the three phosphate binders in our dialysis population.

Materials and Methods: All patients on renal replacement therapy who were using calcium carbonate and converted to sevelamer hydrochloride over the past year were included in the study. Due to stock limitations, all of these patients were subsequently converted to sevelamer carbonate. The data were collected retrospectively from patients' medical records and include general demographic details, co-morbidities, dialysis modality and duration and serum calcium, phosphate, parathyroid hormone, bicarbonate, uric acid and total cholesterol levels. Differences between groups were calculated by the Student's t-test and a two tailed P value of less than 0.05 was considered statistically significant.

Results: Most patients think that sevelamer tablets are more difficult to palate than calcium carbonate and a few admit to having mild gastrointestinal symptoms. However the inconvenience and symptoms are not severe enough for them to discontinue the medicine.

Conclusion: Both sevelamer formulations are superior to calcium carbonate in reducing serum phosphate, calcium and total cholesterol levels. Between the two sevelamer formulations, there was no difference in the aforementioned renal biochemical parameters. We concluded that sevelamer carbonate is a safe and efficacious phosphate binder in our population.

Table 1: Demography and profiles of patients.

Total patients	39
Male	51.28%
Mean age	47.90 ± 14.61
Median age	46
Malay ethnic group	94.87%
Haemodialysis	82.05%
Peritoneal Dialysis	17.95%
Duration on dialysis	6.70 ± 4.82
Hypertension	89.74%
Diabetes Mellitus	20.51%
Ischaemic Heart Disease	17.95%
Parathyroidectomy	12.82%

Table 2: Biochemical results comparisons

	Calcium Carbonate	Sevelamer Hydrochoride	Sevelamer Carbonate
Phosphate*	2.58 ± 0.65	2.19 ± 0.46	1.96 ± 0.53
Calcium*	2.55 ± 0.25	2.41 ± 0.25	2.31 ± 0.28
Parathyroid hormone	91.52 ± 64.76	99.32 ± 75.39	117.21 ± 102.99
Urate	412 ± 83.79	375.72 ± 67.61	404 ± 70.07
Total Cholesterol*	4.53 ± 1.29	4.10 ± 1.35	4.01 ± 1.22

* significant (p value < 0.05)

How does Brunei Darussalam fares in the Malaysian Renal Registry?

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Introduction: The Brunei Dialysis and Transplant Registry (BDTR) was established in 2011 to collect data from patients undergoing renal replacement therapy (RRT) in Brunei Darussalam. The aims of the registry are to determine disease burden attributable to end stage renal disease (ESRD), determine factors influencing the outcomes of RRT and to benchmark against practice in other countries.

Materials and Methods: BDTR is done in partnership with the team responsible for the Malaysian Renal Registry (MDTR). The idea behind the partnership was to enable Bruneian registry staff to obtain experience in setting up and maintaining a registry. Since the methodology, data collection and statistical analysis are similar, we can make some outcome comparisons between Brunei and Malaysia in the various renal domains.

Results: Brunei has a higher prevalence and incidence of ESRD than Malaysia in 2011. However, its rates are similar to that achieved in many states in West Malaysia (Negri Sembilan, Wilayah Kuala Lumpur, Pulau Pinang, Melaka, Johor). Dialysis adequacies of HD patients and phosphate control appear to be inferior to than the Malaysian average. Brunei dialysis patients have better haemoglobin and systolic blood pressure control. APD usage is more common in Brunei. Statistical correlations are not possible as we do not have access to raw data from the MDTR.

Conclusion: The BDTR has identified some deficiencies in the renal services but it signals an important milestone for the establishment of benchmarked renal practice in the country. For the first time, we are able to make comparisons and gauge our standards against other countries. We hoped to maintain and improve our registry for years to come and will strive to align our standards to acceptable international practice.

Table 1: Comparisons between registries.

	Brunei	Malaysia
Incidence	265 per million population	182 per million population *
Prevalence	1289 per million population	900 per million population **
Male	51%	55%
Female	49%	45%
Mean Serum Hb with epo (g/dl)	11.1 ± 1.4 (HD) 10.8 ± 1.4 (PD)	10.3 ± 1.5 (HD)
Mean Serum Hb without epo (g/dl)	12.2 ± 2.0 (All)	11.2 ± 2.2 (HD) 11.1 ± 1.6 (PD)
Mean Serum Albumin (g/dl)	32.7 ± 4.3	38.7 ± 4.9 (HD) 31.9 ± 6.0 (PD)
Mean SBP (mmHg)	145.7 ± 15.1	151.5 ± 18.8 (HD) 139.7 ± 18.0 (PD)
Mean DBP (mmHg)	82.8 ± 9.1	79.3 ± 11.9 (HD) 80.0 ± 10.2 (PD)
Mean Serum Calcium (mmol/l)	2.3 ± 0.2 (All)	2.3 ± 0.2 (HD) 2.4 ± 0.2 (PD)
Mean Serum Phosphate (mmol/l)	1.9 ± 0.5	1.8 ± 0.5 (HD) 1.6 ± 0.5 (PD)
Mean Serum PTH (ng/ml)	202 ± 323.4	222.9 ± 312.6 (HD) 247.4 ± 283.7 (PD)
Hepatitis B HBsAg (+)	3%	4% (HD), 3% (PD)
Hepatitis C (+)	7%	6% (HD), 3% (PD)
Median URR	65.8%	71.8%
CAPD/APD ratio	29.5% / 70.5%	79.7% / 21.3%
PD kt/v mean	2.0 ± 0.3	2.1 ± 0.5
Transplant incidence	9 per million population	4 per million population
Transplant prevalence	81 per million population	66 per million population

HD; haemodialysis, PD; peritoneal dialysis, CAPD: continuous ambulatory PD, ADP; automated PD

A prospective single arm study of the effect of an acute oral glucose loading on the endothelial function of healthy participants

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Introduction: Hyperglycaemic load has been shown to cause endothelial dysfunction in patients diagnosed with diabetes mellitus or the pre-diabetic state of glucose intolerance. In the non-disease state such as in healthy subjects, the effect of glucose loading is still uncertain with conflicting results. The aim of this study was to test the hypothesis that an oral 75gm glucose load will not adversely attenuate the endothelial function of healthy participants, 2 hours postprandially.

Materials and Methods: This is a prospective single arm study evaluating the brachial artery flow -mediated vasodilation of 12 healthy participants before and after a 75g glucose loading. Participants' age, body mass index, family history of diabetes, fasting blood glucose and 2 hour postprandial glucose levels were recorded. All data were analysed with SPSS 17.0 using Wilcoxon test.

Results: Primary analysis of the participants' brachial artery flow mediated vasodilation before and 2

hours after 75g oral glucose loading did not show any statistically significant attenuation ($p > 0.05$) in brachial artery flow-mediated vasodilation, although a trend for reduction in endothelial relaxation was observed. Subgroup analysis of healthy participants with a positive family history of diabetes confirmed a statistically significant attenuation ($p < 0.05$) in brachial artery flow-mediated vasodilation after acute glucose loading even though the 2 hour postprandial blood glucose level, with a median value of 4.6 ± 2.2 mmol/L was within normal limits. This was not observed in the group without a positive family history of diabetes.

Conclusion: Acute oral glucose loading significantly attenuates endothelial relaxation in healthy subjects with positive family history of diabetes but showed no effect in those without a positive family history of diabetes. The attenuation in endothelial relaxation was observed in the presence of normal glucose metabolism, suggesting a defect in endothelium relaxation even in the non-disease state in the group predisposed to diabetes.

Sigmoid volvulus in pregnancy: early diagnosis and intervention is important

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Abstract: Bowel obstruction is rare in pregnancy and delay in recognition can lead to serious maternal and fetal complications. Most reported causes of bowel obstruction in pregnancy (adhesions, intussusception, hernia and carcinoma) require surgical intervention. Sigmoid volvulus is an acute surgical cause that can now be managed successfully without surgery. A 33-year-old (G_7 P_{5+1}) lady of 26th week gestation presented with a one day history of increasing abdominal pain and distension. On the day of presentation, she complained of nausea and vomiting and not passing flatus. She had experienced a similar episode a few weeks previously, but with milder symptoms that had spontaneously resolved. She had a long history of constipation and typically opened her bowels only once to twice a week. She had no previous surgery history. Her abdomen was distended, tympanic, and mildly tender to palpation, but without guarding. There were visible peristalsis and bowel sounds were sluggish. After consideration, an abdominal radiograph was done and this revealed a sigmoid volvulus. The patient underwent an urgent flexible sigmoid decompression without sedation using a gastroscope. She remained well and was discharged several days later. Unfortunately, her volvulus reoccurred and she re-presented at 35 week gestation and was immediately decompressed endoscopically. She was maintained on a stool softener, remained well on follow up and delivered without any complication. She was later planned for a sigmoid colectomy.

Gluteraldehyde-induced colitis: a rare cause of lower gastrointestinal bleeding

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Abstract: Gluteraldehyde is an effective and widely used disinfectant. Despite the large volume of endoscopic procedures carried out, gluteraldehyde-induced colitis is rare. It typically presents with acute onset of lower abdominal pain, fever, and bloody stool, within hours to up to two days of endoscopy. Even though a self-limiting condition, it is important for front line clinicians to be aware of this entity as procedure related complications is of major concern to patients and healthcare providers. A 52-year-old lady with a past medical history of hypertension, dyslipidemia and irritable bowel syndrome (IBS) was admitted with a day history of abdominal pain, watery diarrhoea and per rectal bleed. She was very concerned since these symptoms had developed soon after a screening colonoscopy performed the previous day which was normal. She was well on discharge. A computed tomography (CT) scan was done and this showed thickened sigmoid colon with surrounding fat stranding of inflammatory changes. A sigmoidoscopy which showed friable mucosa of colitis extending from distal rectum to the distal left colon. Histology revealed changes of ischemic colitis. Stool evaluation for bacteria was negative. The temporal trend was consistent with that of a proctosigmoiditis secondary to gluteraldehyde. Her symptoms had completed resolved when she was seen two weeks after diagnosis.

Choledochal cyst in pregnancy: A rare occurrence

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Abstract: Pathology of biliary system during pregnancy is not uncommon the frequent being stone disease. Choledochal cysts are rare, frequently diagnosed in the first decade and more common in females. Although reported, choledochal cyst during pregnancy is rare. The diagnosis is often delayed. The management of biliary pathology during pregnancy poses a challenge as the window of opportunity to carry out any necessary intervention with minimal risk is small. A 26-year-old lady (G_1P_0) in her second trimester was referred from the peripheral Maternal and Child Health clinic for evaluation of intermittent abdominal discomfort. An ultrasound scan identified a large cystic lesion in the in the right upper quadrant area. A magnetic resonance cholangiopancreaography (MRCP) identified a large cystic dilatation in the right upper abdomen which appeared related to the biliary tree consistent with a type I choledochal cyst. The patient underwent surgical excision of the choledochal cyst, cholecystectomy, and formation of a Roux-en-Y hepaticojejunostomy without immediate complication or complication to the pregnancy.

Foley catheters as temporary gastrostomy tubes: Experience of a Nurse led service

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Introduction: Percutaneous endoscopic gastrostomy (PEG) tube is the modality of choice for long-term enteral nutrition. In the event where replacement tubes are not available, urinary catheters can be use to maintain patency of the gastrostomy. The study describes our experience with Foley catheters as temporary gastrostomy tubes and their associated complications in a nurse led practice.
Materials and Methods: Patients who had used Foley catheter as gastrostomy tube over a two year period (Jan 2011-Dec 2012) were studied.
Results: There were 21 cases and 12 (57.4%) did not experience any complications including three patients who were still using the tubes at a median time of 15 months (range 3 to 18). Two patients actually preferred the Foley catheters. Six had formal balloon tubes replacements and one each did not require replacement due to death from the underlying malignancy, and recovery of swallowing. Complications were reported in nine (42.6%) patients; repeated burst balloon with leakage (n=4), lumen blockage (n=1), and tubal migration resulting in small bowel obstruction (n=4). All were successfully managed with tube replacements.
Conclusion: Foley catheters can be safely used as temporary feeding gastrostomy tube in a nurse led practice, but requires monitoring for complications.

Factors related to normalisation of LV function in patients with LV systolic dysfunction in a cohort of patients with Non Ischaemic Cardiomyopathy enrolled in the National Heart Failure Programme (2009-2012)

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Introduction: Dilated Cardiomyopathy leading to congestive heart failure is a worldwide phenomenon. We observed that there are a number of patients with Non Ischaemic Cardiomyopathy with cardiac failure in the Brunei National HF programme. This retrospective study look at the factors which lead to normalisation of cardiac function.
Materials and Methods: Patients who have been diagnosed and treated for non ischaemic cardiomyopathy followed were identified from the clinic registry and retrospectively reviewed. Age, gender, risk factors, Echo parameters were analysed.
Results: There were 140 patients who belonged to the above group during the period of study. During the follow up it was observed that 66/140 (47%) of the patients had reversal of the left ventricular ejection fraction (LVEF) to normal levels. The main factors which lead to this was regression of LV diastolic dimension from an average of 59 to 51mm (p<0001), LV systolic dimension from 47 to 35mm (p<0001) and improvement of LV contractility (EF improved from 31% to 59% (p<0001). Reversal of LV function occurred in almost 50% of patients.
Conclusion: Our study showed that reversal and improvement of cardiac function occur in up to half of the treated patients. This concurs with the worldwide experience of studies in such a group of patients.

ANNOUNCEMENT

2nd CLINICAL AUDIT SYMPOSIUM 2013

'Enhancing Service Delivery Through Quality Audits'

Friday, 25 Muharram 1435 H/ 29th November 2013

VENUE: DEWAN AL 'AFIAH

Guest of Honor

Dr Hjh Rahmah Hj Md Said

Deputy Permanent Secretary
Professional and Technical
Ministry of Health

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