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# Salvaging the “Life Threatening Life Line”: A Case Report of a Single Center Experience

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adjusted model (hazard ratio = 2.71, 95% confidence interval = 1.36–10.1;  $p = 0.010$ ). **Conclusions:** Low muscle strength was more strongly associated with mortality than low muscle mass. Assessment of muscle strength beside muscle mass or BMI may provide additional diagnostic and prognostic information to survival in ESRD patients.

#### Abstract # 64

##### Salvaging the “Life Threatening Life Line”: A Case Report of a Single Center Experience

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**Introduction:** End Stage Renal Failure Patients (ESRF) on regular hemodialysis patients are at continuous risks of various vascular access complications. Multiple cannulations of the arterio-venous fistula (AVF) may lead to aneurysmal dilatation or pseudoaneurysm formation. This potentially abnormal AVF can rupture and lead to death.

We report a case of successful repair of the brachiocephalic (BCF) arteriovenous fistula pseudoaneurysm. Traditionally AVF pseudoaneurysm is either surgically ligated or resected followed by the re-creation of the new AVF. However in current case, the AVF was successfully repaired and cannulated for dialysis.

**Case summary:** 56 year old obese, Malay female, with history of ESRD secondary to chronic glomerulonephritis was referred to our hospital for right BCF swelling and inflammation associated with fever, chills and rigors.

She had been on hemodialysis via the right BCF since last 2 years. Clinically the BCF was tender and inflamed with the thrill present on palpation. Bedside AVF ultrasonography revealed a localized abscess with pseudoaneurysmal BCF measuring 3 × 4 cm.

At admission, the BCF ruptured with a severe episode of bleeding and complicated with hypotension (BP 94/64, HR: 118). She was immediately resuscitated and hemodynamically stabilized prior to an emergency surgery.

Intraoperatively, the BCF area was cleaned and draped. The pseudoaneurysm AVF was identified, measuring 1.2 cm and an elliptical incision was made, followed by dissection from the surrounding tissue. After achieving distal and proximal control of the arterialized cephalic vein (the fistula), the clot in the pseudoaneurysm was evacuated, it was communicating with the saccular aneurysmal dilatation of the fistula. A 1.2 cm defect in the arterialized wall of the cephalic vein (neck of aneurysm) was identified and closed.

No complications were observed after the surgery and currently the BCF is functioning normally with the Qb: 250–300 mls/min and venous pressure 80 mmHg with Kt/v: 1.6 and access flow of 1.2litres/min since the last 1 year.

**Conclusion:** Aneurysmal dilatation typically develops from few days to several weeks after a blunt or penetrating trauma. In the presence of vascular complications, early diagnosis is essential to prevent life threatening complications such as ruptured AVF aneurysm. The clinical finding of a pulsatile mass and a systolic bruit in auscultation are usually adequate for diagnosis of pseudoaneurysm. Preoperative arteriography or ultrasonography confirms the nature and localization of the lesion accurately. Choices of treatment depends on patient's condition and quality of skin overlying aneurysm. Patient underwent surgical resection of pseudoaneurysm followed by repair of the AVF. This can preserve the life line of vascular access in a hemodialysis patient. Conventionally the AVF will be ligated and re-creation is inevitable for future access. **Remarks:** Figures can be provided.

#### Abstract # 67

##### Dialysis Disaster Management During Massive Flood – The Malaysian Northeastern Experience

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**Introduction:** The recent flood disaster in Kelantan state had affected many healthcare facilities, including majority of private and government haemodialysis centres. Approximately 348 End Stage Renal Failure (ESRF) patients from 20 affected haemodialysis centres received 1270 haemodialysis treatments in Hospital Universiti Sains Malaysia, on ad-hoc basis for seven consecutive days. **Objective:** This study was carried out to identify the major problems and immediate actions taken to resolve them during the crisis. **Result:** We have identified four major problems requiring specific attention during disaster: human resources coordination, medical records retrieval, dialysis logistic services and dialysis quality control. Approximately 100 dialysis paramedics and 12 medical officers with 5 nephrologists were involved during the recent disaster. All patients transferred to Hospital USM received dialysis treatment, there was no mortality associated to dialysis treatments and no new seroconversion case was reported. Dialysis treatments were delayed due to inaccessibility to patients' medical records especially on their hepatitis status, medical pre-morbid and medications recently prescribed. Specific logistic support was unavailable for transfer of dialysis machines, consumables and paramedics to ensure continuity of the service. Dialysis treatment were shortened from

4 hours to 3 hours for 2 days due to shortage of dialysis slots. Satellite dialysis units were established and portable RO's were mainly used to support these newly established peripheral facilities. ESRD patients with acute pulmonary oedema admitted to casualty were subjected for emergency haemodialysis treatment immediately in the red zones, reducing the need for elective intubation and ICU admissions. The dialysis facility was 24 hours operational however technical support for maintenance were insufficient. Paramedics and medical officers were assigned on ad-hoc basis in monitoring intradialytic complications. Single use dialyzers were practiced and blood transfusion were only allowed as inpatient basis to prevent hepatitis outbreaks. **Conclusion:** A specific operating procedure is needed for haemodialysis service during natural disaster. This SOP will guide haemodialysis patients, dialysis providers and clinicians in mitigating the crisis. An effective medical records database for data retrieval will provide important information and reduce dialysis related complications.

#### Abstract # 71

##### Clinical Correlates of Hemoglobin Level in Patients with Intradialytic Hypotension

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**Background:** Anemia and intradialytic hypotension (IDH) are common complications of end-stage renal disease and hemodialysis with an adverse effect on survival rates and quality of life. Therefore, patients with both anemia and IDH require personalized management for improving outcomes. The aim of this study was to assess clinical correlates of hemoglobin level in hemodialysis patients who have episodes of IDH. **Patients and Methods:** We included 87 patients with end-stage renal disease (predominantly caused by chronic glomerulonephritis) receiving chronic hemodialysis for at least 12 months. We analyzed intradialytic blood pressure profiles, clinical and laboratory data. Anemia and IDH were diagnosed and treated according to EBPG guidelines. All clinical and laboratory parameters were taken as average during a month of follow-up. Spearman's correlation coefficients were used to find clinical correlates of hemoglobin level in this group of patients. **Results:** Average number of IDH episodes per month was  $2.49 \pm 0.34$ . We found no significant correlations between hemoglobin level and the following parameters: duration of renal replacement therapy, frequency of IDH episodes, pre- and intradialytic blood pressure, dry weight, interdialytic weight gain, ultrafiltration volume, echocardiographic data, serum levels of C-reactive protein and total protein. Hemoglobin level correlated positively with serum albumin level ( $r_s = 0.324$ ;  $p = 0.016$ ) and negatively with age of patients ( $r_s = -0.180$ ;  $p = 0.048$ ). Female patients had a negative correlation between hemoglobin level and postdialytic systolic blood pressure ( $r_s = -0.241$ ;  $p = 0.037$ ) while for men this link was not significant ( $p > 0.10$ ). Other correlations were not associated

with the male or female sex. **Conclusion:** Our study demonstrated clinical correlates of hemoglobin level in hemodialysis patients who have episodes of IDH. Further larger studies are needed to elucidate clinical implications of these findings.

#### Abstract # 76

##### Serum Lipopolysaccharide-Binding Protein in Hemodialysis Patients and Their Relationship To Inflammation and Proinflammatory Monocytes

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**Background:** Chronic inflammation in dialysis patients may cause malnutrition and progressive atherosclerotic CVD and available data suggest that pro-inflammatory cytokines play a central role. In dialysis patients, impaired gut barrier and alteration in microbiota in the gut is thought to increase the risk of bacterial translocation and endotoxemia.

LBP is a 58-kDa, heavily glycosylated, synthesized by hepatocytes and it is released into the bloodstream upon acute-phase stimulation and can increase dramatically under the stimulation of inflammation. Our hypothesis is that chronic activation of the innate immune system in renal dysfunction is a consequence of low-grade endotoxemia caused by the effect of uremic milieu on intestinal permeability. In the present study, our aim is to investigate the associations among LBP, hsCRP, proinflammatory cytokine release, and the serum receptors for LPS clearance, sCD14, in the defined cohort.

**Patients and Methods:** This was a single-center, cross-sectional trial. A total of 120 long-term HD patients were studied. The medical record was thoroughly reviewed for each subject by a collaborating physician in the study. The LBP was determined from serum samples and controls using standardized enzyme linked immunosorbent assay (ELISA). **Methods:** Serum high sensitivity C-reactive protein (CRP), interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF- $\alpha$ ) levels were measured using an immunoassay Flow cytometric determination was used to examine the proportions of the proinflammatory monocytes in the patients. **Results:** Serum LBP concentration was significantly increased in all HD patients in compared with 40 healthy individuals ( $20.7 \pm 8.1 \mu\text{g/mL}$  vs.  $7.6 \pm 2.5 \mu\text{g/mL}$ , respectively;  $p < 0.001$ ). In HD patients, a significant positive correlation was found between LBP levels and CRP, IL-6, sCD14 and fasting blood glucose levels. Incremental BMI were observed with increasing LBP quartiles There is also a linear correlation between the proportion of proinflammatory monocytes (CD16+ monocytes) and levels of LBP ( $r = 0.16$ ,  $p < 0.05$ ). Multivariate regression analyses showed that IL-6 level was the strongest correlate of LBP level ( $r = 0.28$ ;  $P = 0.003$ ), followed by hsCRP level ( $r = 0.27$ ;  $P = 0.004$ ), and sCD14 ( $r = 0.16$ ;  $P < 0.05$ ). **Con-**