Kauppila Score for Abdominal Aortic Calcification and Its Correlation with Carotid Intima Media Thickness among Dialyzed Patients

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KAUPPILA SCORE FOR ABDOMINAL AORTIC CALCIFICATION AND ITS CORRELATION WITH CAROTID INTIMA MEDIA THICKNESS AMONG DIALYZED PATIENTS

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Introduction: Carotid intima-media thickness (cIMT) was a predictor for cardiocerebrovascular mortality among dialyzed patients. Kauppila Score was a system for quantification of abdominal aortic calcification (AAC) on lateral lumbar radiograph and was also highly associated with cardiovascular risk. Latest guideline suggested lateral abdominal radiograph to detect the presence or absence of vascular calcification in patients with chronic kidney disease-mineral bone disorders which prevalent among dialyzed patients. We performed a cross-sectional study to determine whether there is a correlation between cIMT and Kauppila Score among dialyzed patients.

Methods: In this cross-sectional study, 86 stable hemodialysis patients who undergoing dialysis for more than three months on hemodialysis unit of Mohammad Hoesin General Hospital in 2019 were prospectively enrolled after obtaining informed consent. cIMT and Kauppila score for AAC were assessed. Spearman correlation test was used to analyze the relationship between two measurements.

Results: The mean age of patients was 50.01 ± 11.93. The prevalence of significant cIMT was 67.4% and the prevalence of significant AAC was 53.5%. The correlation analysis found that the correlation between cIMT and Kauppila Score for AAC was significantly strong (r= 0.639; p<0.05).

Conclusions: The study validates the correlation between cIMT and Kauppila score for AAC among dialyzed patients. A general interpretation of these study was limited by the small sample size and short observational period. However, Kauppila score could be used in limited-resources facilities to assess vascular calcification and subsequent cardiovascular risk among dialyzed patients.

No conflict of interest

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POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN DIALYSIS PATIENTS AND KIDNEY DISEASE

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Introduction: Posterior reversible encephalopathy syndrome (PRES) is uncommon condition with characteristic neuroimaging findings of cerebral white matter edema. The clinical presentation varies in severity from headache, confusion, decreased consciousness, visual disturbances, and seizures. It can be fatal if unrecognized early, reversible in some cases, and recurrence is rare. There are few case series describing the potential risk factors and outcomes of PRES syndrome in dialysis patients. We studied the clinical-radiological features of PRES syndrome in dialysis patients and management outcomes.

Methods: Ethical approval was obtained to conduct a retrospective cohort study for 8 years (January 2012- September 2020) at Tawam Hospital. Inclusion criteria were adults patients (age > 18 years), end stage renal disease (hemodialysis (HD), peritoneal dialysis (PD)) or acute kidney injury (AKI), who developed clinical and radiological evidence

of PRES syndrome. Risk factors, clinical data and management outcomes were studied and descriptive analysis was used.

Results: 11 patients were diagnosed with PRES syndrome over 8 years. The mean age was 30.1 years; eight males (81.8%) and two females. Majority of the patients (81.8% [8 out 11]) had end stage renal disease (HD (6), PD (2)), two patients had AKI, and one patient had chronic kidney disease stage IV. The comorbid conditions in our cohorts were hypertension (90.9%), diabetes mellitus (18.18%), systemic lupus erythematosus (18.18%), Alport syndrome (9.09%), dyslipidemia (36.3%), seizure disorder (18.18%), pulmonary tuberculosis on therapy (18.18%), and Lawrence Moon Biedl syndrome (9.09%). The cardinal presenting symptoms were headache (10), recurrent tonic clonic seizure (7), blurry vision (9), ataxia (2), altered mental status (5), and vomiting (6). All the patients had uncontrolled hypertension with mean systolic blood pressure of 184 mmHg (peak 202 mmHg) and mean diastolic blood pressure of 111.2 mmHg (peak 123.8 mmHg). Two patients developed PRES symptoms after incomplete dialysis session. The predisposing factors were noncompliance to medications or dialysis, SLE and possible anti tuberculosis therapy. Laboratory investigation revealed mean hemoglobin of 104.5 g/l, albumen of 26.4 g/l, sodium of 138 mmol/l, urea level of 15.2 mmol/l and lactic acid of 4.67 mmol/l. Computed tomography CT brain revealed changes consistence with PRES syndrome only in two patients. Brain MRI was more sensitive and specific for the diagnosis of PRES syndrome (white matter changes involving various areas of brain). Three patients had evidence of brain hemorrhage (subarachnoid hemorrhage, micro hemorrhage) and one patient had acute ischemic stroke. Critical care admission was required for nine patients. Management of PRES syndrome included antihypertensive medications, intensify dialysis protocol with reduction of dry weight by 3-6kg, and antiepileptic medications were used in 6 patients. Three patients had recurrence of PRES syndrome and two patients were initiated on dialysis within one year.

Conclusions: PRES syndrome is uncommon in dialysis patients and possibly under diagnosed with risk of recurrence and brain hemorrhage. Uncontrolled hypertension, young age, male, SLE and noncompliance were predisposing factors. Brain MRI is the diagnostic imaging modality for PRES in dialysis patient.

No conflict of interest

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ROLE OF PLASMAPHERESIS IN RAT KILLER PASTE POISONING

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Introduction: Yellow phosphorus containing rat killer paste causes toxic hepatitis and coagulopathy in humans. It is a common mode of self-harm in a developing country like India. Till date, only liver transplant is the definitive treatment of fulminant liver failure caused by rat killer paste poison. Plasmapheresis replaces the main functions of the failing liver and removes proinflammatory cytokines that are responsible for multi-organ failure. The replacement fluid replenishes the coagulation factors, albumin and immunoglobulins. The complete process improves the microenvironment of the liver, which in turn accelerates the regeneration and helps in the functional recovery. In this study, we have tried plasmapheresis as an innovative approach for the management of liver failure cases due to rat killer paste poisoning.

Methods: This prospective study was conducted in Madurai Medical College. The dialysis machine used was 4008 S Fresenius and the filter used was Plasma Flux P2 filter. 76 cases (Male-47, Female-29) with a definite history of rat killer paste poisoning who had INR more than 3, hepatic encephalopathy and 10-fold elevation in the liver enzymes were taken up for plasmapheresis and the outcomes compared. Pre and post plasmapheresis liver function tests (LFTs) and coagulation profile were compared, and Model for End stage Liver Disease (MELD) score was calculated. Delta MELD was calculated as the difference between pre and post plasmapheresis MELD score. The population was subjected to a minimum of 1 session and a maximum of 3 sessions of plasmapheresis. The replacement fluid was Fresh Frozen Plasma (FFP) according to the body weight. All the patients were also treated with iv glutathione and N-Acetyl cysteine.

Results: The median age was 23 years (19-32) (Median with Interquartile Range). The overall survival rate was 63.2 %. 88.2 % of the population had hyponatremia (survivors- 131.5 mEq/L, non-survivors- 129.57 mEq/L), which was found to be statistically significant with

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