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Research Article

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[Association between bh4/bh2 ratio and Albuminuria in Hypertensive Type -2 Diabetic patients](#)

Endothelial dysfunction and inflammation play a key role in the pathophysiology of diabetic nephropathy; Tetrahydrobiopterin (BH4) is an essential cofactor for nitric oxide synthase, when BH4 is reduced to dihydrobiopterin (BH2), endothelial dysfunction is induced.

Purpose: The aim of this study is to evaluate the relationship between the levels of biopterins with albuminuria in type-2 diabetic hypertensive patients.

Methods: We studied 30 hypertensive type-2 diabetic patients in whom biopterins levels were measured by reverse phase high performance liquid chromatography with fluorescence detection. Additionally, 24 h urinary albumin excretion was also measured (nephelometry). The levels of biopterins and albuminuria were correlated with the Pearson correlation coefficient.

Results: We did not find a significantly correlation between biopterins levels and albuminuria, However, we found a significantly inverse correlation ($R = -0.498$, $p < 0.005$) between the BH4/BH2 ratio and albuminuria.

Conclusion: Our results suggest that the BH4/BH2 ratio instead of biopterins levels may be a marker of nephropathy in hypertensive type-2 diabetic patients.

Thesis

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[Short term effect of Intravenous Intermittent Iron Infusion versus Bolus Iron Infusion on Iron parameters in Hemodialysis patients](#)

Intravenous iron is used in combination with erythropoiesis-stimulating agents to treat the anemia of hemodialysis patients, however, there is variety in the dose and the frequency. So we compare bolus intravenous iron administration protocol vs an intermittent intravenous iron infusion protocol for 3 months in a single blinded design that was conducted on 30 patients randomized into 2 matching groups. Iron parameter, hemoglobin level, and CRP were monitored before and at the end of study. Patients with end stage renal disease on regular hemodialysis with iron deficiency anemia can be treated with intravenous iron administration either by the protocol of divided doses of IV iron through the sessions of hemodialysis or by giving the total dose of iron needed as a single large dose on only one session of hemodialysis, obtaining the same outcome in correction of iron parameters in treatment of iron deficiency anemia.

Research Article

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[The outcome of Acute Kidney Injury in patients with severe Malaria](#)

Background: Acute kidney injury (AKI) is a frequent and serious clinical complication in patients with severe malaria. The purpose of this study was to assess the incidence of AKI in a large population of hospitalized patients with a primary admission diagnosis of malaria, and to investigate the robustness of the KDIGO criteria for predicting the need for dialysis, length of hospital stay and hospital mortality.

Results: We studied 695 consecutive patients admitted with primary diagnoses of malaria, in a 6 months period. AKI occurred in 86 (12.4%) patients (Stage 1 in 30.2%, Stage 2 in 23.3% and Stage 3 in 46.5%), and 19 (22.1%) patients required hemodialysis. No patient in the no-AKI or AKI Stage 1 groups (admission or maximum AKI Stage) required hemodialysis, and the requirement of hemodialysis was higher in patients with AKI Stage 2 (23.1%) and Stage 3 (42.4%). The length of hospital stay was longer (7.3 ± 7.4 days vs 5.1 ± 3.0 days; $t=4.996$, $p<0.0001$), and mortality was higher in patients who developed AKI than in those who did not (22.5% vs 2.5%; $\chi^2=79.52$; $p<0.0001$). Patients with AKI Stage 1, 2 and 3 had significantly higher hospital mortality (11%, 23% and 30%, respectively), compared with 2.5% for patients without AKI [odds ratio 5.2 (1.40-19.11, $p=0.0331$), 13.2 (4.24-41.06, $p=0.0002$), and 16.9 (7.26-36.65, $p<0.0001$)], respectively.

Conclusion: In a relatively large cohort of patients with falciparum malaria infection, the KDIGO criteria identified 12.4% with a diagnosis of AKI. The KDIGO classification was robust in this population for predicting the need for dialysis, length of hospital stay and hospital mortality. The results support the utilization of the KDIGO criteria in diagnosis and to predicting outcomes for patients with malarial AKI.

Research Article

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[Anemia response to Methoxy Polyethylene Glycol-Epoetin Beta \(Mircera\) versus Epoetin Alfa \(Eprex\) in patients with chronic Kidney disease on Hemodialysis](#)

Objective: Anemia, a common complication of chronic kidney disease, usually develops because of erythropoietin deficiency. Maintaining target hemoglobin (Hb) with minimal variability is a challenge in hemodialysis (HD) patients. The aim of this study is to compare the long- and short-acting erythropoietin stimulating agents such as Mircera and Eprex in achieving these targets.

Results: The response rate in the evaluation period was higher in patients treated with methoxypolyethylene glycol-epoetin beta (Mircera) than with epoetin (Eprex) alfa: 36 of 50 (72%) mean Hb concentration (10.51g/dl) versus 29 of 50 (58%) mean Hb concentration (9.81), with statistically significant p-value <0.0001 .

Conclusion: Treatment with (Mircera) administered intravenously once monthly was superior to treatment with (Eprex) administered subcutaneously three times weekly for maintaining haemoglobin concentrations in patients with chronic kidney disease on hemodialysis.

Research Article

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[Profile of vitamin D receptor polymorphism Bsm I and FokI in end stage renal disease Egyptian patients on maintenance hemodialysis](#)

Objective: In end stage renal disease, the synthesis of vitamin D is disturbed. Hyperparathyroidism is one of the key factors in the pathogenesis of many of the complications of dialysis mainly bone and cardiovascular complications. **Aim:** This study aimed at assessing vitamin D receptor gene polymorphisms BsmI and FokI in Egyptian patients with end stage renal disease on maintenance haemodialysis and the association of these polymorphisms with cardiovascular complications and hyperparathyroidism among these patients.

Methods: One hundred subjects, recruited from Medical Research Institute, from March to July 2014, divided into two main groups; the control group which included thirty apparently healthy subjects and the patients group which included seventy patients with end stage renal disease on maintenance haemodialysis with median 4 years. To all studied subjects, detailed history was taken, thorough physical examination, carotid intima media thickness, presence of plaques and ECG ischemic changes. Laboratory investigations included serum levels of: glucose, urea, creatinine, uric acid, albumin, total cholesterol, low and high density lipoproteins, calcium, phosphorus, and CRP as well as plasma PTH level. For molecular studies, the detection of BsmI and FokI polymorphisms using polymerase chain reaction and restriction fragment length polymorphism (PCR / RFLP) technique.

Results: 1. No statistically significant difference could be detected in both BsmI and FokI gene polymorphisms between the hemodialysis patients and the controls, suggesting that the development of ESRD had no relation with either VDR BsmI or FokI gene polymorphisms. 2. No statistically significant difference were found in these polymorphisms between the hemodialysis patients with or without cardiovascular complications or between patients with PTH level less or more than 300 pg/ml. These results suggest that the development of cardiovascular complications and secondary hyperparathyroidism among Egyptian patients on maintenance haemodialysis cannot be attributed to these two gene polymorphisms.

Conclusion: No association could be found between the variant alleles of BsmI and FokI gene polymorphisms and the development of ESRD, cardiovascular complications and secondary hyperparathyroidism among the studied samples of Egyptian patients on maintenance haemodialysis.

Case Report **Published Date:-2017-06-13 00:00:00**

[Acute Tubulointerstitial Nephritis due to Phenytoin: Case Report](#)

Introduction: Acute tubulointerstitial nephritis (ATIN) is an acute kidney injury (AKI) resulting from damage to the tubulointerstitial tissue due to infection, trauma, or use of medication. It is clinically non-specific.

Case: A teenager with multiple trauma, hospitalised after lowering of level of conscience, and convulsion fits. While in the emergency ward, he received: midazolam, fentanyl and phenytoin. The cranial and abdominal CT scans were normal. He was stable with no signs of shock, trauma or infection; he developed oliguria and serum creatinine (Scr) 1.7mg/dL, 12 hours after the admission. After 36 hours, Scr levels were at 3.4mg/dL and urea at 55mg/dL. He had AKI according to pRIFLE (66.2% reduction in clearance). After other causes of AKI had been ruled out, the possibility of ATIN was raised; the phenytoin was suspended and pulse therapy, with methylprednisolone, was promptly initiated. After the first pulse, there was already a decline in the creatinine and urea readings; 48 hours later: Scr at 2.2mg/dL and urea at 86mg/dL. Thirty days after being discharged from hospital, the patient was in good health and had full restoration of kidney function.

Discussion: The singularity of this report relies on the rarity of ATIN secondary to the use of phenytoin and also in the importance of recognizing this aetiology as being one of the origins of AKI.

Conclusion: Early diagnosis allows the reversal of AKI through suppression of treatment with phenytoin and introduction of corticosteroid therapy, when necessary.

Research Article **Published Date:-2017-04-20 00:00:00**

[Intraperitoneal and Subsequent Intravenous Vancomycin: An Effective Treatment Option for Gram-Positive Peritonitis in Peritoneal Dialysis](#)

Intraperitoneal vancomycin absorption is higher when there is peritoneal inflammation, but the absorption decreases with recovery from peritonitis. Consequently, intraperitoneal maintenance doses are ineffective, reducing the rate of cure.

Aim:To evaluate the outcome of Gram-positive peritonitis treated with intraperitoneal and subsequent intravenous vancomycin.

Methods: In April 1996, we initiated a protocol for treating peritonitis caused by Gram-positive organisms using a 2-g intraperitoneal loading dose of vancomycin followed by intravenous vancomycin at 1 g twice in 5 days for coagulase-negative Staphylococcus and at 1 g three times in 5 days for Staphylococcus aureus. We analyzed episodes of Gram-positive peritonitis (coagulase-negative and S. aureus) and the efficiency of the treatment protocol in 113 patients undergoing peritoneal dialysis between 1 April, 1996 and 3 August, 2016. There were 6090 patient-months and the mean treatment lasted 54±44 months. The outcomes were evaluated as (1) complete cure, (2) relapsing peritonitis, (3) catheter removal for refractory peritonitis, and (4) death.

Results: A total of 51 cases of coagulase-negative Staphylococcus peritonitis and 37 of S. aureus were seen in 46 of the 113 patients (40.7%). Of these, coagulase-negative Staphylococcus (92.15%) and 34 S. aureus peritonitis (91.89%) resolved.

Conclusion:The response to treatment was very satisfactory.

Short Communication

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[Cardiac Manifestations on Anti-Phospholipid Syndrome](#)

Antiphospholipid syndrome may present in various ways from cutaneous manifestation, obstetric complications, neurological manifestation, and cardiac manifestation to renal involvement. There are many cardiac complication of anti-phospholipid syndrome, among them are valvular dysfunction, pulmonary hypertension, myocardial infarction, intracardiac thrombi, and ventricular dysfunction [1]. The most common cardiac manifestation is valvular abnormalities ranging from 11.6-32% [2-5].

Case Report

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[The Risk-Adjusted Impact of Intraoperative Hemofiltration on Real-World Outcomes of Patients Undergoing Cardiac Surgery](#)

Objectives: The role of perioperative hemofiltration (HF) in adult patients with impaired renal function undergoing cardiac surgery is controversial. There are suggestions that it may be beneficial for high risk patients undergoing prolonged cardiopulmonary bypass (CPB) surgery. However, long term outcomes in coronary artery bypass graft (CABG) surgery patients have not been investigated.

Methods: To address this we retrospectively followed 7620 patients who underwent CABG between April 2001 and March 2006. Logistic regression was used to risk adjust in-hospital outcomes. Cox proportional hazards analysis was used to risk adjust Kaplan-Meier freedom from death curves. Outcomes were adjusted for American Heart Association and American College of College of Cardiology recommended variables.

Results: 113 patients had intraoperative HF, 38 had postoperative HF and control group of 7006 that had no HF. After adjusting for differences in case-mix, patients with preoperative kidney disease who received postoperative HF proportionately had significantly higher rates of hospital deaths as compared with intraoperative HF patients. In addition, 5-year follow-up risk-adjusted freedom from death indicated significant differences between intraoperative HF group and postoperative HF patients.

Conclusions: These findings support the hypothesis that after adjusting for differences in case mixes, the use of intraoperative hemofiltration may offer superior short term clinical outcomes and longer-term survival benefits for patients with preoperative kidney disease.
