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SR-37

Effect of renal transplantation on organochlorine pesticide (OCPs) levels in chronic kidney disease patients (CKD-5D): a longitudinal study.

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Introduction: Several studies have reported presence of organochlorine pesticides (OCPs) in healthy subjects who are not occupationally possibly due to contamination in food chain and drinking water. Besides, these compounds get bio-accumulated in our adipose tissues due to their lipophilic nature long half-lives. Patients with chronic kidney disease (CKD) have been reported to have high levels of OCPs due to impaired renal excretion. However, no study reports the effect of renal transplantation on these accumulated OCPs.

Aim & Objectives: This study was designed to evaluate the effect of renal transplantation on OCP levels in CKD stage-5D patients.

Materials and methods: 51 adults diagnosed with CKD stage-5D on maintenance hemodialysis and planned for renal transplantation were recruited for this study after informed consent and institutional ethical clearance. Blood samples were drawn twice after informed consent; first before renal transplantation and second, following the confirmation of renal graft stabilization
about 6 months later. Out of 51 patients who had undergone renal transplantation and were enrolled in the study, only 43 turned up for follow up. Out of 8 patients lost to follow-up, 3 patients had been reported to be expired. Blood OCPs levels were analyzed by Agilent 7890B Gas Chromatograph equipped with Ni$^{63}$ selective electron capture detector (GC-ECD) after solid phase extraction and clean-up as per USEPA3620B method.

**Results:** Wilcoxon signed-rank test was used to know the statistical difference between OCP values in Pre-transplantation and Post-transplantation blood samples. Amongst the twenty pesticides that were screened for using the OCP standard mix (Supelco, Bellefonte, PA, USA) α-BHC, methoxychlor and Aldrin were detected in more than 90% samples. DDT, DDE, Heptachlor and Endrin Ketone were detected in less than 10% of samples. Endosulfan sulphate was not extracted and detectable by our methods. Amongst the pre-transplant samples α-BHC showed the highest levels. None of the OCPs except beta BHC, showed any significant statistical difference between pre-transplantation and post transplantation levels.

**Conclusion:** Renal transplantation did not seem to be effective in reduction of OCP levels in CKD patients. Ongoing exposure to OCPs in these transplant patients from their habitat or continuing mobilization from fat deposits in body may be possible factors contributing to the outcome.
IMPACT OF PLATELET TRANSFUSION ON PLATELET FUNCTION IN THROMBOCYTOPENIC TRAUMA PATIENTS: A FLOWCYTOMETRY BASED ASSESSMENT
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ABSTRACT
Background: Hemostasis is dependent on a sufficient quantity of circulating functional platelets. Less is known on the presence of trauma induced platelet dysfunction thrombocytopenic patients. The present paper is based on the research hypothesis that thrombocytopenic trauma patients develop platelet dysfunction leading to poorer outcome and platelet transfusion improves platelet function.

Aims & Objectives: Our primary objective was to analyse platelet function in thrombocytopenic trauma patients requiring platelet transfusion and to associate platelet function with outcome. The secondary objective was to compare the change in platelet function post platelet transfusion.

Materials and Methods: Blood samples were prospectively collected pre and 24 hours post transfusion from 70 thrombocytopenic (PC < 100 X 10^3 µL) trauma patients and evaluated for platelet function using BD Accuri C6 flowcytometer and its association with outcome. Primary outcome was mortality and secondary outcome was trauma induced coagulopathy (TIC). TIC was defined as PT/ aPTT ≥1.5 times the normal. Platelet dysfunction was defined as the presence of either isolated platelet activation or aggregation defect or both. Isolated platelet activation and isolated platelet aggregation defect were defined as values below the interquartile range 4.4-25.2% and values below the interquartile range...
22.8-44.6% for platelet aggregation obtained from 10 healthy volunteers. On flowcytometry, PAC1 (activated GPIIb-IIIa)-FITC positive events were assessed for platelet activation and double colored events for CD31-FITC and CD31-PE were taken as aggregated platelets.

Univariate analysis was carried out using Rank-sum test as indicated (p <0.05=significant). ROC analysis for a clinical cut off was done.

**Results:** Platelet dysfunction was identified in 57.1% (n=40) of thrombocytopenic trauma patients requiring platelet transfusion, of which 95% were males (p 0.01). Using flowcytometry, we identified platelet dysfunction in thrombocytopenic trauma patients requiring platelet transfusion. It was more in the non survivors, the severely injured and in the patients with platelet count between 50,000-100,000/µL.

The median activated platelets in the enrolled patients was lower than healthy volunteers (8.3 (0.1-43.7) % v/s 10.5 (0.8-32.4) %; p >0.05). A cut off of platelet activation ≤ 6.5% was established to identify trauma induced coagulopathy. The mean platelet aggregation was 23.42 (0 - 62.26) % and was significantly lower than healthy control i.e. 56.56 (14.47 - 92.00) % (p value < 0.001) before adding ADP although the values observed after incubating for 3mins with ADP was not statistically significant (23.42 (0 - 62.26) % v/s 23.5 (0 - 61) %; p value >0.05).

Although platelet counts improved 24 hour after platelet transfusion (pre transfusion: 63(4-99) X 10³ µL v/s 73 (4-234)X 10³ µL; p value <0.001), although no improvement in platelet activation (pre transfusion: 8.9(0-60.3) % v/s post transfusion: 7.25(0-56.6) %; p 0.84) and platelet aggregation (pre transfusion: 23(0-61) % v/s post transfusion: 3 (0-65) %; p 0.21) was observed.

**Conclusions:** Using flowcytometry, we identified platelet dysfunction in thrombocytopenic trauma patients requiring platelet transfusion. Platelet transfusion did not improve platelet function. The clinical impact of this observation is however unclear. Other treatment modalities to improve platelet function may be explored.

(Key words: Platelet function analysis, Activation and aggregation of platelets, Flowcytometry, Trauma)
**Title**  SUSCEPTIBILITY SHIFT CALLING FOR RESTRUCTURING OF ANTIBIOTIC POLICY IN UNCOMPLICATED UTI OF OUTPATIENT POPULATION

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**Abstract Body**

**Introduction:** Antimicrobial resistance has been realized as a problem since the inception of the antibiotic era in the 19th century and it has now become the most important public health threat. Injudicious use of antibiotics in humans and animals has led to seepage of resistant organisms even in the community. The current study was planned to determine the level of antibiotic resistance amongst the urinary isolates of the outpatients presenting to our hospital, a 2300 bedded tertiary care centre. This would help us in the formulation of hospital antibiotic policy of the patients presenting to our OPDs with Urinary Tract Infections.

**Aims & Objectives:**
   a) To study the epidemiology of the pathogens causing Urinary Tract infections in our outpatient department.
   b) To determine the level of resistance of the pathogens isolated to the various classes of antibiotics available.

**Materials and methods:**
A retrospective review of the reports of the urine samples received from June’17 to July’18 at Department of Laboratory Medicine (Microbiology division) was performed. Details of all patients presenting with uncomplicated UTI was analysed. Patient was diagnosed with UTI if: pyuria (>5 white blood cells per high-power field or positive for leukocyte esterase), a positive urine culture (≥500 CFU/mL for a clean catch urine sample and of a single uropathogen for a catheterized sample or ≥200CFU/mL), and lower urinary tract symptoms

**Results:**
A total of 19860 urine samples were received in the laboratory of which 1063 patients had uncomplicated UTI due to some pathogen. Of all the uropathogens, E.coli 784(73.7%) was the most common isolate followed by Klebsiella pneumoniae 147(13.8%). Coagulase negative staphylococci 2(0.18%) were the least common pathogens isolated. Of the antibiotics tested for gram negative organisms, more than 90% of the isolates were resistant to amoxy-cillin/clavulanate and ampicillin; >75% isolates were resistant to all the floroquinolones. Amikacin and fosfomycin were found to be sensitive in more than 93% of the strains.

Amongst gram positive isolates also, ampicillin and amox-clav were resistant in more than 75% isolates while amikacin and clindamycin were found sensitive in nearly 70% of the strains.
Conclusion:

Antimicrobial stewardship program for AST panel for uncomplicated UTI comes out as need of the hour as current scenario is keeping redundant antimicrobials in treatment pool and also adds to unnecessary investigation cost. Instead if phased out they can be given a chance to get recycled back again and AST panel can accommodate more likely sensitive antimicrobials to increase treatment options. Hence there is a need for restructuring the antibiotic panel to phase out drugs like Ampicillin and Amox-clav and bring in Amikacin and Fosfomycin as first line AST drugs.