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Serum cystatin as a marker of CIS platinum induced acute kidney injury in patients with malignancy

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Objective: Acute kidney injury is a common complication among patients with malignant disease receiving platinum-based chemotherapy including cisplatin and its analogues. Even mild increase in serum creatinine is associated with significant morbidity and mortality. Early biomarkers are required to detect acute kidney injury earlier in these patients for possibility of early therapeutic intervention. In this study, we investigated the ability of urinary cystatin C as an early marker of AKI induced by cisplatin and its analogues.

Methods: The study was designed as a prospective observational study. The study included 132 patients who have malignant diseases and attended to Clinical Oncology and Nuclear Medicine Department, Mansoura University Hospital, Dakahlia, Egypt for receiving platinum-based chemotherapy. Serum creatinine level was measured and urine samples were collected in days 0, 2, 5 of each chemotherapy cycle.

Outcome: Acute kidney injury as defined by KDIGO (2012) based on serum creatinine.

Results: A total of 132 patients were included in the study, and 35 of them (27%) developed AKI. Urinary cystatin C levels were measured in AKI day sample and in the two preceding samples. There was significant increase in urinary cystatin C in the AKI day sample (P value=0.018) and the preceding sample (P value=0.009) compared to the sample taken before both of them. There was no significant increase in urinary cystatin C level in the AKI day sample compared to the preceding sample (P value=0.433).

Conclusion: Urinary cystatin C rises significantly before rising of serum creatinine indicating its early detective ability of cisplatin-induced AKI compared to serum creatinine.

Biography

Alaa Sabry is an assistant professor Mansoura Urology and Nephrology centre Mansoura University, Mansoura –Egypt. Alaa Sabry is an assistant professor Mansoura Urology and Nephrology centre in nephrology at Sheffield kidney institute-Sheffield in the year 1996, followed by a Bachelor's Degree M.B.B.C.H in the 1990. He worked in UNC, Mansoura University as Resident, Assistant lecture, and finally as assistant professor of nephrology from 1993 till 2006. As an Assistant Professor, he is a recipient of many awards and grants for his valuable contributions and discoveries in major area of research. He has experience in different modalities of dialysis Haemodialysis, peritoneal dialysis, plasmapharesis, His perfusion, Hemofiltration, Slow continuous therapies for acute and chronic cases. He has excellent experience in insertion of femoral, subclavian and internal jaguar vein catheter for intermittent haemodialysis and ultrasonic renal biopsy. His research Member of many peer reviewed journals and his area of expertise, as an Assistant Professor credits him/her with many publications in national and international journals. He is committed to highest standards of excellence and it proves through his authorship of many books.

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