

Study of Contrast Induced Nephropathy in Patients Undergoing Cardiac Catheterization: Upper Egypt Experience

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Abstract : Introduction: Contrast-induced nephropathy (CIN) has been the third leading cause of hospital-acquired renal failure. Patients with cardiac diseases are particularly at risk especially with repeated injections of contrast media. CIN is generally defined as an increase in serum creatinine concentration of > 0.5 mg/dL or 25% above baseline within 48 hours after contrast administration. Aim of work: To examine the frequency of CIN for patients undergoing cardiac catheterization at Sohag University Hospital (Upper Egypt) and to identify possible risk factors for CIN in these patients. Material and methods: The study included 104 patients with mean age 56.11 ± 10.03 , 64(61.5%) are males while 40(38.5%) are females. 44(42.3%) patients are diabetics, 43(41%) patients are hypertensive, 6(5.7%) patients have congestive heart failure, 69(66.3%) patients on statins, 74 (71.2 %) are on ACEIs or ARBs, 19(15.4%) are on metformin, 6 (5.8%) are on NSAIDs, 30(28.8%) are on diuretics. RESULTS: Patients were classified at the end of the study into two groups: Group A: Included 91 patients who did not develop CIN. Group B: Included 13 patients who developed CIN, of which serum creatinine raised > 0.5mg/dl in 6 patients and raised > 25% from the baseline after the procedure in 13 patients. The overall incidence of CIN was 12.5%. CIN increased with older age. There was an increase in the incidence of CIN in diabetic versus non-diabetic patients (20.5% and 6.7%) respectively. ($p < 0.03$). There was a highly significant increase in the incidence of CIN in patients with CHF versus those without CHF (100% and 71%) respectively, ($P < 0001$). Patients on diuretics showed a significant increase in the incidence of CIN representing 61.5% of all patients who developed CIN. Conclusion: Older patients, diabetic patients, patients with CHF and patients on diuretics have higher risk of developing CIN during coronary catheterization and should receive reno-protective measures before contrast exposure.

Keywords : cardiac diseases, contrast-induced nephropathy, coronary catheterization, CIN

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