

A Single Centre Prospective Study of Cardiorenal Syndrome: Subtypes, Risk Factors and Outcome

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Abstract

Background and Aims: Many hospitalized patients have various degrees of heart and kidney dysfunction; which was first defined as Cardiorenal syndrome (CRS) in 2004. CRS was further divided into five subtypes depending on disease acuity and sequential organ involvements. Early recognition of this syndrome can help to reduce morbidity and mortality in these patients. Our aim of the study was to study baseline characteristics and outcomes of patients in different subtypes, and to identify various risk factors affecting outcomes. **Material and Methods:** This prospective observational study was conducted on 60 patients with CRS. Sociodemographic, laboratory, and echocardiography parameters were recorded. All patients were classified as per ACUTE DIALYSIS QUALITY INITIATIVE GROUP 2008 into various CRS sub-types. The outcome was considered favourable if patients were stable at discharge whereas, non-favourable for patients who expired or were initiated on maintenance dialysis on discharge. **Results:** Out of sixty patients (M:34, F:26, Mean age 64.23±10.83), 93.33% had comorbidity. The commonest comorbidity was DM (43, 72%) and the commonest symptom was dyspnea (60, 100%). Thirty (50%) patients had Type 1 CRS. Patients with Type 2 CRS had lower haemoglobin, calcium and mean eGFR and higher urea, creatinine, uric acid and phosphate along with higher Systolic blood pressure ($p<0.05$). The overall mortality was 10 (16.67%). Patients with higher age, lower Hb, higher creatinine, lower eGFR, low ejection fraction on admission and Type 5 CRS have non-favourable outcome ($n=14$, 23.33%). **Conclusion:** In conclusion, various CRS subtypes have differences in clinical features, risk factors, laboratory parameters and outcome. Patients with higher age, lower Hb, higher creatinine, lower eGFR, low ejection fraction on admission and Type 5 CRS have non-favourable outcome

Keywords: cardiorenal syndrome, CRS subtypes, risk factors, outcome