Cardio-renal anemia syndrome in acute heart failure

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Aim: Cardio renal anemia syndrome (CRAS) in acute heart failure (AHF) is considered to be a high risk group. We have limited data available for the significance of CRAS in acute heart failure in the Middle East population.

Subjects & Methods: Gulf Acute Heart Failure Registry (Gulf-CARE) study analyzed 5005 consecutive patients admitted with AHF to 47 hospitals in middle-eastern Gulf countries between 14 February and 14 November 2012. We analyzed the incidence of CRAS in acute heart failure and its interactions. Patients were categorized into two groups. The first group defined by G1 that consists of acute heart failure patients without CRAS, where the second group defined by G2 that consists of acute heart failure patients with CRAS. Chi-square test of independence was utilized for G1 and G2.

Results: In Gulf-CARE registry 26.8% (1343/5005) patients were identified as CRAS patients where anemia was observed in 54.5% (2728/5005) and chronic kidney disease (CKD) in 45.1% (2257/5005) patient. Mean age in the G1 was 57±14.7 and in G2 65±13.9. In the CRAS study population (G2) 77.1% (1036/1343) were hypertensive while only 55.2% (2023/3662) were seen with G1 (p=0.001), in G2 60.9% (811/1343) were diabetic while in G1 40.9% (1496/3662) (p=0.001), in G2 57.2% (768/1343) had coronary artery disease (CAD) while G1 had 42.8% (1569/3662) (p=0.001), in G2 36.6% (491/1343) had dyslipidemia while in G1 6.9% (253/3662) (p=0.001) and in G2 14.7% (198/1343) had atrial fibrillation while in G2 11.2% (409/3662) (p=0.001). In hospital cardiogenic shock, intubation, stroke were reported almost same in both groups. In-hospital major bleeding was seen more with G2 1.4% (19/1343) when compare to G1 0.6% (21/3662) with a statistical significance p=0.003. Mortality rate was almost similar in both groups 6.2% (228/3662) in G1 and 6.3% (85/1343) in G2.

Conclusion: In the setting of acute heart failure CRAS patients are more prone towards in-hospital major bleeding compare to those AHF patients without CRAS and it was found that CRAS has no significant role in the incidence of in-hospital cardiogenic shock, stroke and mortality.

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