

ACC-i2 with TCT

COMPARISON OF RENALGUARD SYSTEM, CONTINUOUS VENOVENOUS HEMOFILTRATION AND HYDRATION IN HIGH-RISK PATIENTS FOR CONTRAST-INDUCED NEPHROPATHY

i2 Poster Contributions

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Background: Contrast-induced nephropathy (CIN) is a relatively frequent complication of percutaneous coronary and peripheral artery interventions and is associated with significant in-hospital and long term morbidity and mortality. We aim to compare the impact on major events of RenalGuard system (RG), continuous veno-venous Hemofiltration (CVWH) and hydration (Hy) with sodium bicarbonate plus N-acetylcysteine in patients with severe renal failure.

Methods: We assigned 100 consecutive not dialyzed patients with severe renal failure (eGFR ≤ 30 mL/min \times 1.73m² or with a baseline Serum Creatinine > 1.5 mg/dL, or with a CIN risk score ≥ 11) scheduled for an elective percutaneous coronary and/or peripheral interventions to a preventive strategy with RG (33 pts), CVWH (35 pts) or Hy (32 pts). Primary end points were In-Hospital and 1 month dialysis and MACEs, and CIN. Secondly, 6-Month MACEs were recorded.

Results: In-H dialysis occurred in none of RG patients, 7 (20%) of CVWH patients vs 2 (6.3%) of Hy group ($p=0.013$). In-H MACEs were significantly less frequent in RG procedure [RG:2 (6.1%), CVWH: 13 (37.1%) and Hy: 4 (12.5%) $p=0.003$; OR RG vs CVWH: 0.12; CI:0.02-0.60, $p=0.01$]. Similar trends were seen at 1 and 6 month follow-up. In particular, none of RG patients died at 6 month FU, vs 9 (25.7%) CVWH patients and 2 (6.3%) Hydration protocol patients ($p=0.002$). Albeit not significant, CIN occurred less frequently in RG patients (15.2%) than CVWH (31.4%) and hydration protocol (25.0%) ($p=0.288$).

Conclusions: For the first time, RenalGuard® system, CVWH and hydration with sodium bicarbonate and N-Acetylcysteine were compared in a real-world population: RG demonstrated to be a safe procedure and to significantly reduce the risk of In-Hospital, 1 month and 6 month MACEs, compared to continuous veno-venous Hemofiltration and Hydration.