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Letter to Editor

Contrast-induced nephropathy prediction following ST-elevation myocardial infarction: Missing links

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Dear Editor,

The study by Ceylan and Yildirim outlining H_2FPEF score as independent predictor of contrast-induced nephropathy (CIN) in ST-elevation myocardial infarction (STEMI) patients undergoing percutaneous coronary intervention (PCI), emerges as an exemplary research work.[1] Nonetheless, considering the relevance of the research subject, additional insights into the topic would certainly interest the Journal readership.

The authors retrospectively analyze the data of 355 patients, wherein one misses a comparative account of the serum albumin (SA) levels in the cohort developing CIN (n = 63) as opposed to those without CIN (n = 292).[1] The importance of the former is heralded by the Wiedermann et al meta-analysis suggesting a causal association between hypoalbuminemia and acute kidney injury (AKI), emanating from a total of 43 studies and 68,262 subjects.[2] Notably so, the meta-analysis included 8 studies with 4,344 patients combined from either cardiac surgical or PCI settings.[2]

More importantly, Murat et al retrospectively delineate significantly lower SA in their acute coronary syndrome (ACS) patients with contrast-induced AKI, or CI-AKI (n = 107) compared to those with normal renal function following PCI (n = 783) (3.52 ± 0.40 v/s 3.94 ± 0.39 mg/dL, $P < 0.001$).[3] Subsequent to a multivariate analysis, the group highlights SA as an independent CI-AKI predictor (OR; 95% CI: 0.177; 0.080-0.392, $P < 0.001$) in a research scenario demonstrating peculiar similarities to the Ceylan and Yildirim study.[1,3]

Ahead of the well-known pro-inflammatory links of both hypoalbuminemia and AKI, Wei et al elucidate a pivotal role of nutritional status in determining the eventual risk to contrast-induced renal injury in an elderly subset undergoing PCI.[2-5] Indeed, the dual relationship of SA with malnutrition and inflammation cannot be overemphasized, particularly in advanced age.[3,5] Moreover, whilst the inclusion of SA could have augmented the contextual research lucidity, the optimal CIN-predictive cut-off of the H_2FPEF score might also require further consolidation given the recent literature in the subject (H_2FPEF cut-off of 2.5 predicting CIN in ACS patients with 79.8% and 64.1% sensitivity-specificity in Ozbeyaz et al study vis-à-vis a CIN-predictive cut-off of 1.5 emanating from the Ceylan and Yildirim study and demonstrating a sensitivity-specificity of 64.0% and 72.1% in an exclusive STEMI cohort).[1,6]

Competing Interests

Nothing to declare.

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