

## Cardiology 2020: Comparative Study of Predictive Value for Different Risk Scores for Predicting Contrast Induced Nephropathy and Short Outcome after Primary Percutaneous Coronary Intervention- Moustafa Mokarrab

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### Abstract

#### Background:

Meticulous risk stratification for contrast-induced nephropathy (CIN) is important for patients with ST-segment elevation myocardial infarction (STEMI) and treated with primary percutaneous coronary intervention (PPCI). Aim of the work: To compare between different risk scores for predicting contrast-induced nephropathy (CIN) and short outcome after primary percutaneous coronary intervention in patients with ST segment elevation myocardial infarction. Materials and methods: We prospectively enrolled 100 patients who presented with STEMI and treated with Primary PCI. Mehran, Gao, Chen, ACEF or AGEF (age, serum creatinine, or glomerular filtration rate, and ejection fraction); and GRACE (Global Registry for Acute Coronary Events) risk scores were calculated for each patient. The predictive accuracy of the 6 scores for CIN, in-hospital death and major adverse clinical events (MACEs) were assessed by Receiver operating characteristics (ROC) curve. CIN was defined as an absolute increase of serum creatinine by  $\geq 0.5$  mg/dl or a relative increase of serum creatinine by  $\geq 25\%$  from baseline value, at 48-72 h following the exposure to contrast media (CM). The data was analyzed using Chi-square test using SPSS (Statistical package for social science) software.

**Results:** All risk scores had relatively good predictive accuracy for CIN (Area under the curve (AUC) ranged from 0.671 to 0.829) and performed well for prediction of in-hospital death (AUC ranged from 0.838 to 0.973) and MACEs (AUC ranged from 0.815 to 0.926). The Mehran and Gao risk scores had better predictive accuracy for CIN. While Mehran and GRACE risk scores had better predictive accuracy for in-hospital death and MACEs. Conclusion: Risk scores for

predicting CIN perform well in stratifying the risk of CIN, in-hospital death and MACEs in patients with STEMI undergoing PPCI. The Gao, Mehran risk scores appear to have greater predictive value for CIN. While GRACE and Mehran scores had highest predictive accuracy for in hospital death and MACEs than the other risk scores.

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