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What Are the Essential Risk Factors for Contrast-Induced Nephropathy in Patients With ST-Segment Elevation Myocardial Infarction?

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We read with interest the paper by Sigirci et al entitled "Can thrombus burden predict contrast-induced nephropathy in patients with ST-segment elevation myocardial infarction?"[1] They evaluated the relationship between contrast-induced nephropathy (CIN) and coronary artery thrombus burden in patients with ST-segment elevation myocardial infarction (STEMI). We have some comments about regarding the design, statistical analysis, and discussion of this study.

There are some well-known risk factors for CIN in patients with STEMI and the Mehran score is considered as an important tool to predict CIN.[2] This simple risk score could make a big contribution to this study.[2] Hypotension and intra-aortic balloon pump use have been considered as associated with CIN in STEMI. However, the authors[1] did not report blood pressure (BP) and did not include BP or hypotension in logistic regression analysis. These variables could affect the results of the study.

Second, according to the European Society of Cardiology guidelines manual, thrombectomy or thrombus aspiration (TA) may be considered in cases with large residual coronary artery thrombus burden.[3] Thrombus aspiration may prevent distal thromboembolic events and minimize the infarct area especially in patients with stent thrombosis and large coronary artery thrombus burden. However, the authors[1] did not include TA use in tables and logistic regression analysis; we propose that some of these patients underwent TA.

Contrast volume media is an important risk factor for CIN.[4,5] Because of the longer duration of coronary interventions and repeated cine-angiographic views, we proposed that the use of contrast media volume in patients with large thrombus burden might be higher than the other patients. Demonstrating the contrast media volume in table 2 and performing logistic regression analysis after stratifying contrast media volume could better represent the association.

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