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Mortality Risk Factors After Coronary Artery Bypass Grafting: The Tip of the Iceberg

LETTER TO THE EDITOR

To the Editor,

We read the article by Toprak et al,[1] entitled "Post-Coronary Artery Bypass: The Power of Prognostic Nutritional Index in Determining Mortality," with great interest. First of all, we congratulate the authors for their good contribution. However, we would like to discuss some issues about the risk factors of mortality after coronary artery bypass grafting (CABG).

The authors included 440 patients who underwent CABG surgery in the current study over approximately 2 years. As far as we can tell, in-hospital mortality occurred in 96 (21.8%) patients. The analyses showed that preoperative and postoperative prognostic nutritional index (PNI) were important predictors of mortality.[1] Although the data obtained are quite valuable, it may be useful to consider some known important risk factors in studies investigating new mortality risk factors in CABG operations.

Firstly, the Society of Thoracic Surgeons (STS) and European System for Cardiac Operative Risk Evaluation (EuroSCORE) II are used to predict mortality in patients who underwent CABG.[2] In the study investigating perioperative PNI value as a mortality predictor,[1] including STS or EuroSCORE II values in multivariate analyses may increase the significance of the results obtained. Using these scores may also make mortality rates more understandable.

Secondly, the presence of diabetes mellitus (DM) has significant negative effects on the development and prognosis of cardiovascular diseases. In a meta-analysis including a total of 100 217 patients, DM was found to be an important predictor of mortality.[3] In addition, the presence of insulin-dependent DM is an important element of the EuroSCORE II risk assessment system. In the current study, DM was found to be statistically significantly higher in patients who did not develop mortality (81.25% vs. 18.75%).[1] What could be the reasons for this finding? Additionally, male gender was found to be a predictor of mortality in the current study.[1] However, it is known that women have higher mortality rates in the early period after CABG operations.[4]

Finally, albumin is an important negative acute-phase reactant used in PNI calculations. In some cardiovascular clinics, it can be added to the prime solutions in cardiopulmonary bypass systems. Some clinical complications can also be reduced by albumin supplementation.[5] In addition, in a study involving 37 498 participants, increased red blood cell (RBC) transfusion was shown to be an important predictor of mortality.[6] Patients with excessive RBC transfusion without albumin supplementation may also have reduced albumin serum levels.[7] It should not be forgotten that all these factors may affect perioperative PNI levels.

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