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Letter to The Editor

Where do we stand in predicting contrast-induced nephropathy?

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We read with great interest Toprak's research article on contrast-induced nephropathy, titled "Relationship between basal liver function test levels and contrast-induced nephropathy (CIN) in patients undergoing coronary angiography", published in your journal (1). A well-designed and presented article explores the possible relationship between preprocedural basal liver enzymes and contrast-induced nephropathy. It has been shown that high levels of basal liver enzymes Aspartate Alanine Aminotransferase (ALT) and especially Aminotransferase (AST) may predict the development of CIN. Multivariate logistic regression analysis revealed that AST level was an independent predictor of CIN (OR 1.006, 95% CI 1.003–1.009, p<0.001). AST level was found to be predictive for estimating CIN in ROC curve analysis, with optimal threshold value, AST ≥43 U/L, 77% sensitivity and 71% specificity (area under the curve: 0.764, 95% confidence interval [CI]: 0.712-0.817, p<0.001).

CIN has become a common morbidity and mortality due to increasing radiocontrast-mediated imaging (2). Therefore, it has become essential to predict the development of CIN and to take more intensive medical measures before contrast application. Although it is recommended today to predict the development of CIN, such as the Mehran Risk Score, increasing studies have shown that many important parameters other than the parameters of the Mehran score may be important in predicting CIN (3,4). We think that integrating simple, reproducible and quickly accessible parameters such as AST and ALT into the Mehran Risk Score will further increase the predictive value of contrast-induced nephropathy of the Mehran risk score.

Although hydration is currently the only proven treatment to prevent contrast nephropathy, CIN is still frequently encountered, especially after percutaneous coronary procedures, despite preprocedural and post-procedural hydration (5). It is seen more frequently in subjects prone to nephropathy such as diabetes, and kidney functions are affected more deeply than normal individuals after contrast application (6). Therefore, increasing the predictive value of the Mehran risk score would be particularly beneficial for such patients. In addition to all these, it has been shown that C-peptide may be protective against contrast nephropathy in diabetic patients in a recent article by Toprak (7). If these results are supported by large-scale randomized clinical trials, administration of C-peptide in high-risk patients may hold great promise in preventing the development of CIN.

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