Contrast nephropathy in patients with well-preserved renal function

To the Editor,

We read with great interest the article by Yıldız et al. (1), "entitled "Relationship between brain natriuretic peptide, microalbuminuria, and contrast-induced nephropathy in patients with acute coronary syndrome," published in the September issue of The Anatolian Journal of Cardiology 2014; 14: 505-10, investigating the relationship among contrast-induced nephropathy (CIN), microalbuminuria, and brain-natri-

uretic peptide (BNP). Their main finding was that the incidence of CIN was not significantly different between patients with microalbuminuria and those without (4 out of 25 patients vs 26 out of 145 patients, $p=NS$). Among patients with microalbuminuria, the level of microalbuminuria was not different between those who developed CIN and those who did not. In addition, among those without microalbuminuria, the level of BNP was not different between patients with CIN and those without it. Although the authors did not express the mean creatinine level of the overall population, we can estimate from the data that it was around 0.9 mg/dL, with an approximate range of 0.1 to 1.7 mg/dL. Approximately 17% of the patients developed CIN, which is very high, considering the relatively well-preserved renal function of the study population. This is because of the definition of CIN. The application of a 25% or 0.5-mg/dL increase in serum creatinine for the definition of CIN in patients with well-preserved function is vague. For example, a patient with a baseline creatinine of 1.0 mg/dL is considered to have CIN if he had a creatinine level of 1.5 mg/dL after contrast administration. Another patient with a baseline creatinine level of 0.7 mg/dL is also denoted to have CIN if he had a post-contrast creatinine level of 0.9 mg/dL. These two patients are in the same basket of CIN. Thus, it is critical to consider this when reaching a conclusion from a study. We suggest an acute contrast-agent-induced reduction in renal function as an increase in serum creatinine concentration of at least 0.5 mg per deciliter after administration of the contrast agent in patients with relatively well-preserved renal function (2-5). Such an increase may be important, because it can increase the duration of hospitalization (2).

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