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Re: Effect of Renin-Angiotensin-Aldosterone System Blockade Therapy on Incidence of Contrast-induced Nephropathy in Patients With Chronic Kidney Disease

Dear Editor,

We read the article "Effect of Renin-Angiotensin-Aldosterone System(RAAS) Blockade Therapy on Incidence of Contrast-induced Nephropathy in Patients with Chronic Kidney Disease" by Spatz et al with interest.[1] They investigated the possible impact of use of the renin-angiotensin-aldosterone system medications on the incidence of contrast-induced nephropathy (CIN) in patients with mild-to-moderate chronic kidney disease who received coronary angiography. They suggested that patients on angiotensin-converting enzyme inhibitors or angiotensin receptor blockers while undergoing cardiac catheterization are not at a higher risk of developing CIN. Prospective randomized trials are needed to help determine the effect of RAAS blockade on CIN.

Contrast-induced nephropathy is the leading cause of hospital-acquired renal failure. The CIN causes prolonged hospitalization, increased cost and incidence of renal and cardiovascular events, and mortality. The elderly patients have more risk of CIN because of decreased renal reserve and the other factors. These factors, including an estimated glomerular filtration rate (GFR) less than 60 mL/min/1.73 m^2, left ventricular ejection fraction less than 45%, diabetes mellitus, hypotension, anemia, age over 70 years, emergency percutaneous coronary intervention (PCI), a history of myocardial infarction, and contrast agents dose higher than 200 mL, were identified as risk factors for CIN after PCI.[2] On the other hand, hyperlipidemia, smoking, and alcohol consumption may be associated with CIN.[3] In the present study, information about patient charecteristics such as arterial blood pressure level of before contrast exposure, anemia, hyperlipidemia, emergency PCI, history of myocardial infarction, smoking, and alcohol consumption was not defined. It would be better if the authors had provided infomation about these factors.

In addition, even mild chronic kidney dysfunction, as a GFR less than 90 mL/min, and dehydration are a risk factor of CIN in previous studies.[4] On

the other hand, the Modification of Diet in Renal Disease formula in younger age groups with higher GFR underestimates GFR in comparison with the Cockcroft-Gault equation, but it overestimates lower GFRs, especially in older individuals.[5] In the present retrospective study serum creatinine values were not exactly determined before contrast exposure. It would be better, if the authors had clearly identified these factors. We believe that the findings should be confirmed and the application of risk predictors ought to be validated in large prospective studies due to these factors.

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