

## Letters to the Editor

### **Percutaneous Coronary Intervention for Chronic Total Occlusion in Patients With Chronic Kidney Disease: Should Imaging Surveillance Be Mandatory?**



#### **To the Editor:**

We read with interest the report by Azzalini et al.,<sup>1</sup> in which they described the influence of chronic kidney disease (CKD) on chronic total occlusion (CTO) outcome including contrast-induced acute kidney injury with a high-volume registry (approximate 1000 patients including CKD 20%) and long-term follow-up period (2 years) after percutaneous coronary intervention (PCI). The CKD group had a lower rate of success and more cardiac events and contrast-induced acute kidney injury compared with the non-CKD group: findings that are in line with the previous report.<sup>2</sup> As the CKD group had more events in the follow-up, do the authors consider that mandatory angiographic follow-up surveillance may impact the cardiac events in this set of patients?

A recent report with follow-up coronary angiography showed that CKD was a predictor of *de novo* lesions in a real-world population including CKD 50%.<sup>3</sup> Progression of coronary atherosclerosis due to uremia and continuous inflammation in CKD may be linked to cardiac death in some cases. In the current study, patients with failed PCI to CTO and target lesion revascularization of CTO (16% and 8.3%, respectively) comprised one fourth of the total study population. Further, some patients may develop *de novo* lesions in a vessel that supplies collateral flow to distal segment of the CTO vessel. Presumably, they could present with sudden death caused by more than 2-vessel occlusions or ischemic fatal arrhythmia. In another report, for example, cardiac death has occurred more frequently in patients with residual CTO in the right coronary artery compared with those without residual CTO in the right coronary artery after PCI in unprotected left main coronary artery disease.<sup>4</sup> Taken all together, these clinical scenarios could be prevented by systematic angiographic surveillance.

In terms of renal events, the current study reported few new dialyses (0.3% at 2 years) in follow-up after PCI. Similarly, in another report, authors showed no renal-replacement

therapy (new dialysis and renal transplant) and only 3% of worsening renal function (> 25% from baseline) at 1-year follow-up, including coronary angiographic surveillance.<sup>3</sup> This means that imaging evaluation of coronary arteries using contrast media (eg, coronary computed tomography angiography, coronary angiography with low-dose contrast media using biplane and enhanced x-ray system), and/or cardiac scintigraphy or stress echocardiograms for patients with severe CKD could be acceptable.

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#### **Disclosures**

The authors have no conflicts of interest to disclose.

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