

Should We Assess All Patients for Coronary Artery Disease at the Initiation of Dialysis?

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Coronary artery disease (CAD) is a major common cause of death in patients with chronic kidney disease. The new NKF-K/DOQI guidelines recommended that all patients—regardless of symptoms—require assessment for cardiovascular disease including CAD at the initiation of dialysis. However, the rating of strength of recommendation is the “C” grade because of the limitation of data on this point. Therefore, we performed this study to examine the prevalence of CAD and the accuracy of noninvasive tests that we can do easily for detection of CAD in incident dialysis patients.

Initially, the screening tests including clinical symptoms, electrocardiogram (ECG) and 2D echocardiogram were performed in all incident dialysis patients from February to December 2005. Pharmacologic stress nuclear scintigraphy was recommended in all patients with angina symptoms, ischemic changes on ECG or ischemic abnormalities on echocardiogram, but not in case of acute coronary syndrome warranting direct angiography. Patients with perfusion defect on stress nuclear scintigraphy were performed the coronary angiography (CAG). All patients were requested a written consent, and patients who refused our protocol were excluded. Sixty patients among 62 who initiated dialysis during this period were enrolled. Among the patients, twenty-four patients (40%) were suspected to have CAD on screening tests, 4 on ischemic symptoms, four on ECG changes without symptoms, and 16 patients on echocardiographic abnormalities without symptoms. Four symptomatic patients had ischemic abnormalities on echocardiogram and were revealed non-ST elevation MI warranting direct angiography and revascularization therapy. Two of the four patients with ECG change had a positive scintigraphy and only one patient agreed on performing CAG and showed the minimal lesion. All 16 patients with ischemic abnormalities on echocardiogram were performed stress nuclear scintigraphy. Fourteen of them showed the positive results on scintigraphy and were underwent the CAG. Ten (70%) of 14 patients showed significant lesions warranting revascularization therapy, and 2 patients, 50–60% stenotic lesions for medical therapy.

In this study, the prevalence of significant CAD warranting revascularization therapy was 23.3% (14/60) in patients at the initiation of dialysis. This is about five times more than previous report, 4.2–4.5%, by the Korean Dialysis Registry mainly based on ECG and medical history. Interestingly, the most of them had neither ischemic symptoms nor ECG changes. The other side, the accuracy of echocardiography and scintigraphy were 70% (14/20) and 66% (10/15), respectively. These results suggested that we should assess all patients for coronary artery disease in the initiation of dialysis regardless symptoms.