

Chronic Kidney Disease and Coronary Heart Disease

To the Editor:

We read with interest the review of chronic kidney disease (CKD) by Balogun and Bolton [1] in the December 2004 issue of JCOM. We think that the importance of CKD as a major risk factor for coronary heart disease should be emphasized. The high rate of cardiovascular-related morbidity and mortality in patients with CKD not yet requiring dialysis is well established [2]. Many risk factors such as diabetes, hypertension, hyperlipidemia, and advanced age are present in patients with CKD, but CKD is an independent risk factor. Manjunath et al showed that each 10 mL/min per 1.73 m² decrease in the glomerular filtration rate correlates independently with a 5% higher cardiovascular risk [3]. In patients with known risk factors for coronary heart disease, even mild renal impairment is independently associated with development of cardiovascular disease [4,5]. CKD may be an even greater risk factor for coronary heart disease than diabetes mellitus. In the Bypass Angioplasty Revascularization Investigation (BARI) trial, after 7 years of follow-up of patients who underwent revascularization, 85% of 611 patients with diabetes were free from cardiac death, but only 77% of 46 patients with CKD and no diabetes mellitus were free from cardiac death [6]. The Tehran Lipid and Glucose Study showed that although CKD patients had a lower prevalence of major coronary artery disease risk factors compared with diabetes patients, patients with moderate CKD had a higher prevalence of electrocardiogram-defined coronary artery disease: 19.7% versus 14.7% in patients with diabetes [7]. The management of patients with CKD should include an intense focus on coronary heart disease risk factor modification.

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In reply:

We agree with Drs. Rashidi and Adler that CKD is a major risk factor for progression of CHD as well as other cardiovascular disease. It has been widely accepted that cardiac-related events are the number one cause of death in CKD stage 5 patients treated with hemodialysis. More recent data suggest that earlier-stage CKD can be regarded as a nontraditional and independent risk factor for mortality from CHD. Muntner et al reporting on the Second National Health and Nutrition Examination Survey Mortality Study showed that in a typical U.S. population, there was an independent association between CKD and increased all-cause mortality related to cardiac disease [1]. Go et al also showed an association between earlier stages of CKD and risks of cardiovascular events, hospitalization, and mortality [2]. Other recent articles have also demonstrated the association between CKD and cardiovascular disease [3-6]. We agree with Drs. Rashidi and Adler that the management of CKD should include management of comorbid conditions with emphasis on cardiovascular risk reduction through blood pressure control (to a goal of 130/80 mm Hg), lifestyle and dietary changes, smoking cessation, and so on. The clinical practice guidelines published by the Renal Physicians Association and the National Kidney Foundation provide evidence-based recommendations for this specialized group of patients.

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