Peripheral Artery Disease Often Receives Less than Optimal Care

Written by Rita Buckley

Peripheral artery disease (PAD) affects an estimated 27 million individuals in Europe and North America [Owens CD, Conte MS. *Circulation* 2012]. It has high morbidity and mortality even if asymptomatic [Leng GC et al. *Int J Epidemiol* 1996]. Matthews Chacko, MD, Johns Hopkins University, Baltimore, Maryland, USA, discussed the diagnosis and treatment of PAD.

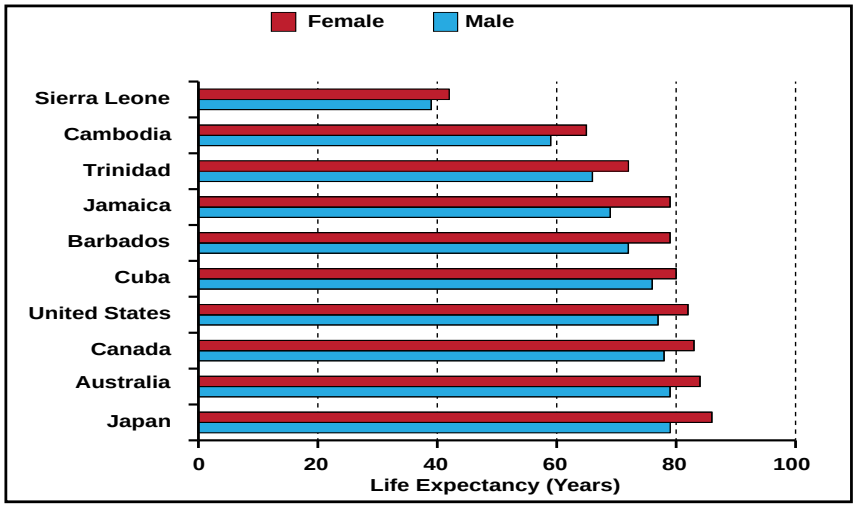
He reviewed the etiology, epidemiology, and demographic features of PAD; the importance of the ankle brachial index (ABI); the assessment of cardiovascular (CV) risk; and management of patients with PAD, in particular those from the Caribbean nations. Previous studies have indicated that African Caribbeans report more distal PAD than the general population [Bennett PC et al. *Q J Med* 2009].

PAD is a manifestation of generalized atherosclerosis and, therefore, an independent predictor of CV ischemic events [Leng GC et al. *BMJ* 1996; Criqui MH et al. *N Engl J Med* 1992]. Bennet et al. [*Q J Med* 2009] report that its presence is associated with an increased risk of cerebrovascular disease and coronary artery disease (CAD); that people with PAD have a 4 to 5 times greater risk of dying from a CV disease event compared with those without it, and a 2 to 3 times greater risk of all-cause mortality.

Although risk factors for CAD and PAD overlap [Bhatt DL et al. *JAMA* 2006], patients with PAD are less likely to receive optimal medical therapy than those with CAD. The majority of those with PAD are either asymptomatic or have atypical leg symptoms, with classical claudication in only 10% to 35% of affected individuals. Therefore, detection is elusive unless actively sought [Owens CD. *Circulation* 2012].

According to Dr. Chacko, PAD patients may have CAD, carotid disease, or abdominal aortic aneurysm. A "panvascular" focus is mandatory to optimize patient outcomes, along with early recognition of the disease, the initiation of appropriate medical treatment, and assessment for revascularization. The need is especially great in the Caribbean where life expectancy is shorter than it is in other nations (Figure 1). In Trinidad and Tobago, heart disease was the leading cause of death, accounting for 24.6% of all deaths in 2006 (Figure 2).

Figure 1. Life Expectancy by Nation in 2006.



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Peer-Reviewed Highlights from the

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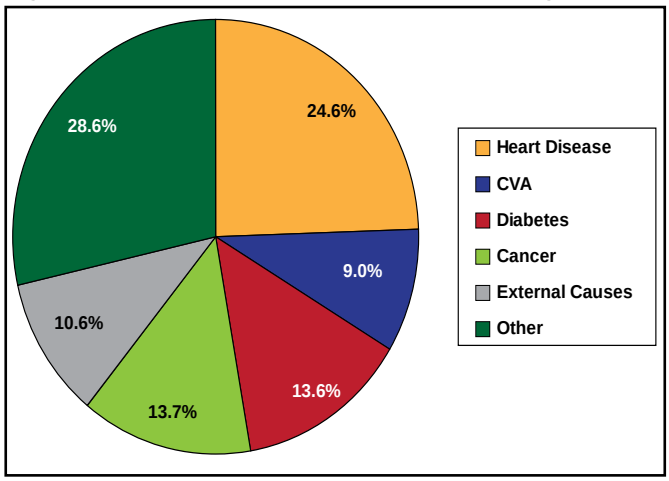
Figure 2. Causes of Death in Trinidad and Tobago in 2006.



CVA=cerebrovascular accident.
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Hirsch et al. [*JAMA* 2001] report that the prevalence of PAD in primary care practices is high, yet physician awareness of the diagnosis is relatively low. They found that measurement of a simple ABI identified a large number of patients with previously unrecognized PAD. Owens and Conte [*Circulation* 2012] report that clinical history and electrocardiogram detect only 20% to 40% of coexisting disease whereas cardiac catheterization identifies CAD in as many as 90% of PAD patients.

"CAD is just the tip of the atherosclerotic iceberg," said Dr. Chacko, adding that PAD is a common and a poor prognostic marker. He cited a critical need for increased awareness, with early diagnosis and medical therapy. He also said that stopping smoking and walking are vital in the management of PAD and its related CV comorbidities.

Patients with CKD Are at High Risk for CV Death

Written by Rita Buckley

An estimated 26 million American adults have chronic kidney disease (CKD) and millions of others are at increased risk for CKD [National Kidney Foundation. www.kidney.org]. Furthermore, as glomerular filtration rate falls, the risk of cardiovascular (CV) death increases [Go AS et al. *N Engl J Med* 2004].

Robert P. Giugliano, MD, SM, Harvard Medical School, Boston, Massachusetts, USA, reviewed the overlap of CKD and CV risk, highlighted results of key clinical trials and guideline recommendations in patients with CKD and CV disease (CVD), and discussed potential future therapies in this group of patients.

According to Dr. Giugliano, the strong association between CKD and CVD is underappreciated. Patients with CKD have a higher prevalence of both traditional CVD risk factors (eg, hypertension, type 2 diabetes, and dyslipidemia) as well as nontraditional ones, (eg, inflammation, malnutrition, mineral disorders, and anemia). "All patients with CKD, even those with mild-to-moderate renal dysfunction, should be considered at high risk for CV death," he said, noting an inverse exponential relationship between the 2 diseases.

An overlap of 3 common diseases—diabetes mellitus, hyperlipidemia, and CKD–can help explain why these patients are at hightened risk and point towards common solutions (Figure 1). In 2011, 366 million people worldwide had diabetes; 183 million (50%) were undiagnosed [IDF Diabetes Atlas. The Global Burden www.idf.org]. Patients with type 2 diabetes make up the largest and fastest growing single disease group requiring renal replacement therapy [Vora JP et al. *J Hum Hypertens* 2000]. The Hypertension Detection and Follow-up Program [Shulman NB et al. *Hypertension* 1989] found that in CKD patients with creatinine >1.7 mg/dL, 58% died from CVD and 19% from renal failure. General treatment principles at that time included the evaluation and aggressive treatment of CVD risk factors and the assessment of CKD-related factors (eg, proteinuria, anemia, and volume status).

The lipid profile typically seen in renal disease is characterized by high circulating triglycerides, very low-density lipoprotein cholesterol, intermediate-density lipoprotein, cholesterol, chylomicron remnants, low plasma high-density lipoprotein cholesterol particles, and increased levels of lipoprotein A. Numerous studies have shown that lipid derangement is likely to be an independent risk factor for the development of renal disease [Gyebi L et al. *Curr Hypertens Rep* 2012].

Statin administration in CKD is now common practice endorsed by the Kidney Disease Outcomes Quality Initiative (KDOQI) [Ruan XZ et al. *Nat Rev Nephrol* 2009; Gyebi L et al. *Curr Hypertens Rep* 2012]. Subgroup analyses in patients with CKD from prior statin studies demonstrated that the benefits of statin therapy extended to patients with CKD. Indeed, there was a 14.5% decline in total mortality (p=0.045) in the Pravastatin Pooling Project [Tonelli M et al. *Circulation* 2004]. The landmark Study of Heart and Renal Protection [SHARP] trial found that reduction of LDL cholesterol with simvastatin 20 mg in combination with ezetimibe 10 mg daily safely reduced the incidence of major atherosclerotic events in a wide range of patients with advanced CKD, including those managed with dialysis as well as patients not requiring dialysis [Baigent C et al. *Lancet* 2011] (Figure 2).