

## GUEST EDITORIAL

## Cardiovascular medicine in primary healthcare in sub-Saharan Africa: Minimum standards for practice (part 2)



In the past decades sub-Saharan Africa (SSA) has witnessed urbanisation at unparalleled rates of increase, together with changing lifestyles. The consequence of this epidemiological transition has been a dramatic increase in the incidence of non-communicable diseases (NCDs), in particular cardiovascular disease (CVD). At the same time social disintegration and inequality, compounded by the dwindling economy in many countries in SSA, have seriously hindered a cohesive response to NCDs.<sup>[1]</sup> Moreover, infections remain rife and many societies in SSA have to contend with the twin epidemics of both communicable diseases and NCDs.<sup>[2]</sup>

The World Health Organization noted that the number of disability-adjusted life-years lost to CVD in SSA rose from 5.3 million for men and 6.3 million for women in 1990 to 6.5 million and 6.9 million, respectively, in 2000, and that these could rise above 8.1 million and 7.9 million, respectively, in 2010.<sup>[3]</sup> In SSA, CVD mortality is much higher than in developed countries<sup>[4]</sup> and affects younger people and women disproportionately.<sup>[2,4]</sup>

The prevalence and management status of common CVDs, such as hypertension, heart failure (HF), cardiomyopathy, stroke, ischaemic heart disease, rheumatic heart disease and pericardial disease, remain largely unknown in South Africa (SA), much as in the rest of SSA. However, the available data suggest that these conditions are very poorly managed.<sup>[5,6]</sup> Furthermore, there are significant systemic barriers to planning and providing care for people with CVD, which compound the problem. For instance, in SA inadequate classification of deaths from CVD and differences in patterns of risk and disease among ethnic groups hampered effective planning.<sup>[7]</sup>

This issue of CME focuses on the clinical approaches to these common cardiovascular challenges, and forms the second part of a series of articles jointly produced by SA cardiologists and family physicians with the dual objectives of empowering doctors who manage these conditions in primary care settings in SA and improving the care of CVD patients in such settings and emergency departments. In the previous issue, HF,<sup>[8]</sup> dyspnoea,<sup>[9]</sup> hypertension in the young<sup>[10]</sup> and valvular heart disease<sup>[11]</sup> were reviewed. The current edition provides an evidence-based and pragmatic approach to the important clinical problems of infective endocarditis<sup>[12]</sup> and pericardial disease.<sup>[13]</sup>

A review of infective endocarditis is included in this series owing to its high in-hospital and 1-year mortality. Viridans streptococci cause most cases, although *Staphylococcus aureus* is also an important cause that often requires early surgery for successful eradication. Paucity of data, particularly in SSA where rheumatic valvular heart disease is still highly prevalent, makes decisions with regard to the optimal treatment of this disease very difficult. In this timely review, Hitzeroth *et al.*<sup>[12]</sup> emphasise that the diagnosis of infective endocarditis is primarily clinical, while laboratory findings play a confirmatory role.

The clinical presentation can vary. Patients may present with a nonspecific constitutional illness, features of valve dysfunction and HF (fulminant or subacute) or signs and symptoms due to peri-

pheral embolisation. A growing problem is the entity of healthcare-associated infective endocarditis, particularly due to the introduction of bacteria after peripheral or central vein cannulation.

The diagnosis is traditionally based on the modified Duke criteria, which provide a useful framework for the investigation of patients suspected of having infective endocarditis. The diagnosis rests on clinical features, to a lesser extent certain laboratory findings, microbiological assessment (blood cultures in the majority of cases) and imaging to detect evidence of endocardial infection (by means of echocardiography or scintigraphy) or septic emboli (often with the assistance of a computed tomography scan).

A high proportion of the microbiological cultures are negative owing to prior antibiotic administration to patients. If infective endocarditis is not treated – or poorly treated – sequelae include HF, local intracardiac extension of infection, stroke and intracranial haemorrhage. When indicated, surgery to remove the infective tissue and replace the diseased valve should always be considered. The role of prophylactic antibiotics is discussed. The European Society of Cardiology has recently updated its guidelines on the diagnosis and management of infective endocarditis.<sup>[14]</sup>

Kyriakakis *et al.*<sup>[13]</sup> review the approach to a patient with suspected pericardial disease. The spectrum of pericardial diseases includes pericarditis, pericardial effusions, pericardial tamponade and pericardial constriction. In industrialised countries, the aetiology of acute pericarditis is either viral or idiopathic, whereas in SSA tuberculosis (TB) features prominently, especially in the context of the high HIV/AIDS prevalence. Recurrent pericarditis may occur in up to 50% of patients with acute idiopathic pericarditis who have not been prescribed colchicine as part of their initial management. The most common complications are pericardial effusions and cardiac tamponade.

Pericardial effusions complicated by pericardial tamponade are commonly encountered in SSA owing to the high prevalence of TB pericarditis. Tamponade is a life-threatening condition that remains a clinical and not an echocardiographic diagnosis. Central to establishing a diagnosis of cardiac tamponade is the presence of a pulsus paradoxus >10 mmHg in a patient with a pericardial effusion; this sign may, however, be difficult to elicit in a hypotensive patient. Echocardiography confirms the presence of an effusion when tamponade is suspected and assists in identifying the best approach to safe pericardiocentesis.

Constrictive pericarditis is a rare cause of HF and is potentially curable. It is a particularly challenging clinical diagnosis and many patients are only identified late in the course of their disease when their peri-operative mortality risk is at its highest. Prior cardiac surgery is the most common cause of constriction in the developed world, while TB remains the culprit in the developing world. A limited anterior surgical pericardiectomy has been shown to result in a higher recurrence of constriction than a radical and complete pericardial resection. The latter is more effectively accomplished earlier on in the disease before pericardial calcium has infiltrated the myocardium, emphasising the need for early detection of the disease.

It is our sincere hope that this series of articles on common cardiovascular conditions often encountered in primary care settings in SA and SSA will improve the care of patients with CVD. Furthermore, it is our wish that the articles clearly emphasise the minimum standards for management of these common cardiovascular disorders.



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