GUEST EDITORIAL

Guest Editor, Keir McCutcheon
Cardiologist, Windhoek, Namibia

Keir McCutcheon ID: https://orcid.org/0000-0002-3265-1620
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A contemporary perspective on coronary artery disease in sub-Saharan Africa

Since the turn of the 21st century, death due to non-communicable disease has steadily increased in South Africa. Deaths due to cardiovascular diseases accounted for 12.9% of deaths in 2008 and steadily increased to 17,6% in 2018 with Black Africans having the highest age-standardised mortality rates, followed by Indian / Asian and Coloured population groups, at 170.63 and 168.23 per 100 000, respectively.[1]

Coronary artery disease (CAD) is the leading cause of death globally,[2] and in this issue of the Journal several studies present data that could be useful in understanding the landscape of CAD in South Africa. Naidoo[3] describes ethnic differences in risk factor profiles among patients with coronary artery disease (CAD) at Grey's Hospital in KwaZulu-Natal from 2012 - 2016. In 886 patients with CAD, 60.8% were of Indian ethnicity. African patients with CAD had less clustering of traditional risk factors for CAD, were significantly younger (mean 54.9 years), were more likely to present with ST-elevation myocardial infarction and were more frequently found to have single vessel CAD compared with other ethnic groups. Indian patients had the highest prevalence of dyslipidaemia (97.8%), diabetes (65.9%), family history of CAD (55.1%) and prior history of myocardial infarction (26.7%). The findings in the current study mirror data from Cameroon, Kenya and India, and previous data from the same group in Durban.[4] It is interesting that the rates of dyslipidaemia among Africans from the Pietermaritzburg area were so high (88%) in the current study, suggesting that more screening and primary prevention for traditional risks factors is needed in this population. It would have been interesting to know the HIV rates among younger patients presenting with a first myocardial infarction since this is an important risk factor for CAD in Africa.[5]

From the same group, we learn about CAD among patients presenting with atypical chest pain.[6] Retrospective data was collected from patients presenting to Inkosi Albert Luthuli Central Hospital with stable chest pain. Hospital records of patients with chest pain who did not satisfy the criteria for typical angina but had undergone both nuclear imaging and coronary angiography were evaluated over a 6-year period (2002 - 2008). Nearly 10% of 5 378 patients were deemed to have atypical / non-anginal chest pain and 173 of these underwent both non-invasive ischaemia testing and invasive coronary angiography. Unfortunately, characterisation of the chest pain did not prove helpful in differentiating patients with and without obstructive CAD. These data showed that patients from Durban with obstructive CAD may present with atypical chest symptoms, and it remains important to consider their risk factor profile in deciding whether patients should undergo further invasive testing. The authors highlight diabetes and microvascular

dysfunction as possible reasons for atypical presentations in this population. Non-invasive testing may show ischaemia in patients with microvascular dysfunction but will not necessarily indicate obstructive CAD.[7]

Whether percutaneous coronary intervention (PCI) with second generation drug-eluting stents (DES) can be safely used vs. coronary artery bypass (CABG) surgery remains controversial in the treatment of multi-vessel CAD. Sahue, et al.[8] prospectively followed 2 cohorts of patients with multi-vessel CAD who underwent either PCI (n=30) or CABG (n=30) for 5 years. Although repeat revascularisation was higher among patients who underwent PCI, major adverse cardiovascular and cerebrovascular events were similar between the 2 groups. As this was not a randomised-controlled trial, the decision regarding method of revascularisation was taken by the attending cardiologist and cardiovascular surgeon. Naturally, this results in a selection bias. For example, only 13 of the PCI group compared with 25 of the CABG group had triple vessel disease. Furthermore, few data are presented on the complexity of the CAD in the 2 groups. It would have been interesting to know the SYNTAX and EURO-2 scores to adequately compare the 2 groups. Recent European Society of Cardiology guidelines would certainly support PCI in multi-vessel disease of low-to-intermediate anatomic complexity.[9]

From Stellenbosch, Beyers, et al.[10] evaluated STEMI care within the Tygerberg Hospital referral network. From April - December 2020, 65% of 292 STEMI patients were treated with a protocolised pharmaco-invasive strategy, while 19% were treated by primary PCI. The authors showed that a Hub-and-Spoke model for treatment of STEMI in the Western Cape yields 30-day outcomes comparable with international networks. A significant difference was observed between the pharmaco-invasive group (4.2%) and those not receiving fibrinolysis or primary PCI (22.9%) in terms of both mortality and ACS recurrence. These are important data for South Africa showing that appropriate triage and referral for STEMI patients can result in excellent outcomes. Furthermore, the data from this study can be used by other South African facilities for comparison and as a basis to improve healthcare delivery.

Conflict of interest: none declared.

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