

CME: COPD in South Africa – under-recognised and undertreated

Chronic obstructive pulmonary disease (COPD) is frequently a challenge for both patient and doctor. Even the name causes much head scratching for many sufferers. 'Asthma I know', and 'emphysema I have heard of', but COPD – a complex syndrome extending from chronic bronchitis to emphysema – is not well understood or easily explained. This is in part the fault of pulmonologists, but as knowledge grows, there are increasing attempts to split COPD into more clinically relevant phenotypes. This will hopefully allow for clearer understanding and better treatment choices. With COPD, much can still be done despite its being incurable and lung function impairment being irreversible.

COPD is a common, preventable but incurable disease currently ranked third in global mortality. Worldwide 65 million people are estimated to have moderate to severe disease, and COPD accounts for 3 million deaths annually, of which 90% are said to occur in low- and middle-income countries. Yet despite these staggering numbers, COPD remains both under-recognised and undertreated in most populations, including our own. There are many reasons for this, not least clinicians' often fatalistic attitude with regard to its treatment.

This CME highlights key aspects of the diagnosis and pharmacological and non-pharmacological treatment, as well as new developments in management of severe COPD. We also include articles highlighting non-smoking-related COPD and some tips for accurate spirometry.

Improving pulmonary function in emphysema and asthma

This issue of *SAMJ* carries a Forum article^[1] on **endoscopic lung volume reduction to improve pulmonary function in severe emphysema** that is a distillation of recommendations for its use, based on published evidence, international expert opinion, local expertise and local commercial access to devices, that will be published in full in the October issue.^[2]

In addition, we publish **recommendations for the use of bronchial thermoplasty in the management of severe asthma**.^[3] It is recommended that all endoscopic bronchothermoplasty procedures for severe asthma should be performed in the context of a local and/or international registry. The Assembly on Interventional Pulmonology of the South African Thoracic Society is willing to assist potential centres wishing to establish a thermoplasty and endoscopic lung volume reduction service in terms of training and accreditation.

Nine-month infant HIV testing

In South Africa (SA) excellent gains have been made in prevention of mother-to-child transmission (PMTCT) since 2002, with over 90% of HIV-infected women accessing PMTCT. The national early transmission rate of HIV infection as measured at around 6 weeks of age is on track to meet the National Strategic Plan target of <2% in 2015.

To detect postnatal transmission of HIV (via maternal infections not diagnosed during pregnancy, infection acquired late in pregnancy or during breastfeeding, poor adherence to ART during breastfeeding, and mixed infant feeding practices), national guidelines recommend that HIV-exposed uninfected (HEU) infants undergo repeat HIV testing 6 weeks after weaning and at 18 months of age. But HIV testing after weaning and at 18 months is poorly implemented and monitored. Consequently the rate of postnatal transmission and the extent of the paediatric HIV epidemic in SA remain unmeasured, and HIV-infected infants and children remain unidentified.

In an article suggesting that it is time to implement 9-month infant HIV testing in SA, Fairlie *et al.*^[4] explore a model that posits the adoption in SA of World Health Organization (WHO) guidelines, available since 2008, that recommend infant HIV diagnosis using an antibody detection assay at 9 months of age for all HEU infants and a confirmatory HIV polymerase chain reaction test if the HRT is positive. If SA were to adopt the WHO recommendation to test all HEU infants at the 9-month measles vaccine visit (Expanded Programme on Immunization), when measles (MCV1) coverage rates in SA are reported at 95%, more HIV-infected infants would be identified earlier and benefit from early initiation of combination antiretroviral therapy, while HIV infection would be excluded in 80 - 100% of HEU infants.

With dwindling early vertical transmission rates as a result of SA's successful PMTCT programme, proportionately more infants and children diagnosed after 6 weeks of age will contribute to the paediatric HIV epidemic, and it is clearly important that they be identified.

Codeine misuse and dependence in SA

Misuse of prescription and over-the-counter codeine-containing products is a global public health issue. SA is considering introducing regulations to reduce the amount of codeine in a tablet to 10 mg and to up-schedule norcodeine and acetylcodeine. Dada *et al.*^[5] analysed substance abuse treatment admissions to investigate the extent of treatment demand related to the misuse of codeine or codeine dependence in SA and the profile of patients seeking treatment for their misuse or dependency on codeine (as part of a comprehensive, multicountry Codeine Misuse and Dependence (Codemisused) Study funded by the European Union). Fewer than 1% of persons had codeine as their primary substance of abuse, similar to findings reported from centres in the UK and Ireland. These percentages are low compared with alcohol, cannabis, methamphetamine and other substances of abuse in SA, but translate to over 400 persons per year needing treatment for their codeine misuse in specialist substance abuse treatment centres.

Recommendations for the anticoagulation of pregnant patients with mechanical heart valves

The above recommendations^[6] are key reading for anyone involved in the management of pregnant women with mechanical heart valves. The Southern African Society of Thrombosis and Haemostasis reviewed available literature and comprehensive evidence-based guidelines for the anticoagulation of these patients. These SA recommendations discuss the use of enoxaparin (Clexane), unfractionated heparin and warfarin. (The recommendation to only use enoxaparin is based on the fact that adequate laboratory monitoring is available in SA for enoxaparin and not other low-molecular-weight heparins (LMWHs) – the testing of LMWH is not interchangeable.) The choice of anticoagulant remains challenging because both vitamin K antagonists and heparins may be associated with maternal and fetal adverse events and should be considered in conjunction with risk factors for thromboembolism (valve type, position and history of thromboembolism), economic factors (availability and cost of the anticoagulants, access to laboratory testing and specialist care) and maternal preferences.

For colleagues wishing to understand the mechanisms of action and pharmacology of antithrombotic agents, I recommend 'Pharmacology of antithrombotic drugs: An assessment of oral antiplatelet and anticoagulant treatments', published in a recent issue of *The Lancet*.^[7]

Ebola: Lessons learned

The dangerous, debilitating and deadly Western African Ebola outbreak, which caused >10 000 deaths in some 430 days, has been magnificently brought under control thanks to Médecins sans Frontières, followed by many dedicated health personnel (some of them South African) and deployment by several countries of their military personnel possessing key logistics capability. Also, there was superb shared intergovernmental decision-making (on the part of the governments of the countries directly involved and those threatened as neighbours) in spite of an initial crippling of any response by the decisions of the airlines. As expressed by Bruce Aylward, Assistant Director-General of the WHO Polio and Emergencies cluster,^[8] success in controlling the epidemic required turning the traditional public health strategies of support and education of affected communities, contact tracing and isolation to stop transmission, treatment of victims and safe burial of those who did die, on its head – rapid establishment of treatment centres, with rapid training of burial teams (led by the Red Cross) first, followed by contact tracing, and creation of a UN air-bridge to ensure humanitarian aid to affected communities.

There can be no complacency, as Ebola does smoulder on in Sierra Leone, while new cases have recently occurred in Liberia and are likely to occur in the future ... see 'Ebola: Lessons learned'.^[9]

Viral haemorrhagic fever (VHF) in South Africa

In a 'Forum' article on **nosocomial transmission of VHF in South Africa**,^[10] Guy Richards describes several cases of haemorrhagic fever and the measures required to prevent nosocomial transmission. In SA the only endemic haemorrhagic fever is Crimean-Congo haemorrhagic fever, transmitted by the *Hyalomma* tick, which is ubiquitous in cattle farming areas. Johannesburg's health centres have had to deal with all imported cases of VHF, whether from rural areas in SA or from countries to the north.

The accompanying review by Richards *et al.*^[11] on **VHF in South Africa** is mandatory reading.

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