## CME: Spina bifida

This month's education component (and that of the April issue) deals with the problem of spina bifida, which is the most common permanently disabling birth defect. In South Africa (SA), it affects an estimated 0.77 - 6.1/1 000 live births, with higher incidences in rural areas. Genetic and environmental factors act together to cause the condition, which ranges in severity from occult spinal dysraphism, signalled by a dimple (or red marks, hyperpigmented patches, tufts of hair or small lumps) in an infant's lower back to meningomyelocele (complicated by hydrocephalus in ~80 - 90% of cases). The latter requires surgery within 2 - 3 days of birth to prevent infection and preserve neurological function. We include a review[1] and summaries of full articles (available online).

## Adopting a beneficial lifestyle for cardiovascular protection

Opie and Dalby offer us a review[2] of how we might, and encourage our patients to, adopt favourable lifestyles to promote protection from cardiovascular disease (CVD). Their focus is on those studies with 'hard' endpoints, namely cardiovascular events and/or mortality. Beneficial lifestyle factors are: non-smoking; exercise for ≥30 min 3 - 5 times per week at moderate walking pace, which notably, is as good as an intensive walking pace; maintaining an ideal body weight on an ideal diet; and a modest alcohol intake. The Mediterranean diet – the beneficial components being high intake of vegetables, legumes, fruits and nuts, cereal, fish, and monounsaturated fats with small amounts of meat, poultry, and high-fat dairy products – reduces mortality by 25%, coronary heart disease deaths by 33%, and cancer by 24%.

## Markers for CVD risk in HIV

HIV-related CVD is under-recognised and the clinical assessment thereof is a critical challenge for practitioners, especially in SA. Besides the traditional risk factors for CVD, in people living with HIV there are specific factors that potentially increase the risk for developing CVD: chronic inflammation; metabolic changes associated with the infection; therapy; and lipodystrophy. Van Rooyen *et al.*[3] offer us cardiometabolic markers to identify CVD risk in HIV-infected black South Africans. Despite the limitations and the relatively small size of this study, these authors propose that by employing lipid ratios and high-density lipoprotein cholesterol (HDL-C) levels for screening, early identification of South Africans living with HIV and at risk for CVD may be achieved. A triglyceride (TG):HDL-C ratio ≥1.49, total cholesterol (TC):HDL-C ratio ≥5.4 and an HDL-C level ≤0.76 mmol/l was indicative of CVD risk.

## Rational dosing of colistin

Globally, multidrug-resistant (MDR) Gram-negative bacilli causing nosocomial infections (notably in *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Enterobacter* spp. and *Acinetobacter baumannii*) have become an important emerging threat. In SA, carbapenem resistance is emerging in *K. pneumoniae* and *Enterobacter* spp., while high levels of resistance to all antimicrobial classes are observed among *P. aeruginosa* and *A. baumannii*, the latter having emerged as a common pathogen in intensive care units.

There are good theoretical grounds to suggest that colistin should be used in combination with other effective antibacterials to treat such infections, especially in patients with normal renal function and when treating bacteria with minimum inhibitory concentrations >1 mg/l. Visser Kift *et al.*[4] used information gleaned from their systematic review to develop simple recommendations for rational dosing (refer to Table 1 on pg. 185). It is imperative that colistin is dosed appropriately to minimise the risk of resistance as it is a last-line agent against MDR Gram-negative bacteria and the pipeline of new drugs in development for these organisms is limited. Access to colistin needs to be made easier in SA, especially in the public sector where carbapenem resistance is increasing.

## Improved imaging for diagnosis of childhood TB

An Editorial from Belard *et al.*[5] alerts us to the value of focused assessment with sonography for HIV/TB (FASH) in children. FASH is a bedside ultrasound that has been developed to improve detection of extrapulmonary tuberculosis (EPTB) in HIV-infected adults, becoming one of the most applied modules in adult emergency rooms in SA. Being well tolerated and non-invasive, it is especially promising and, because of the relatively high frequency of EPTB in young children, its yield in identifying abdominal nodes, hepatic or splenic hypoechoic lesions as well as pericardial, pleural or ascitic effusions – all indications of EPTB – is high. Windows for mediastinal ultrasound include the suprasternal notch and parasternal intercostal spaces, which allow for detection of enlarged lymph nodes in the superior and anterior mediastinum.

## Research ethics evolution

Since its original formulation, the Declaration of Helsinki (DOH)[6] has undergone seven revisions and two clarifications, with the most recent revision recently adopted during the World Medical Association Assembly by an overwhelming majority (>75%) of member associations. Some of the main changes include a more readable structure, revised paragraphs on vulnerable groups, Research Ethics Committees, post-study provisions and the introduction of compensation for research-related injuries and a specific reference to biobanks. As it reaches its 50th anniversary in 2014, the DOH remains one of the most authoritative statements on ethical standards for human research in the world. It is a set of principles that has kept up with advances in science and technology.

## SA's progress towards the MDGs

This month's supplement reveals SA's progress towards the Millennium Development Goals (MDGs).[7] MDGs 4, 5 and 6 are directly related to health and the functioning of the healthcare system. MDG 4 relates to reducing child mortality, MDG 5 speaks to improving maternal health and MDG 6 to combating HIV/AIDS, malaria and other diseases, such as TB. Targets were set for countries to reach by 31 December 2015, using the year 1990 as a baseline. This supplement has a number of papers that describe the progress that SA has made in reaching some of these targets and some of the continuing challenges that need to be overcome to meet, or at least get as close to reaching, the targets as possible.

**JS**


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