

Guest editorial

Renal medicine

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Nephrology has grown tremendously over the past 5 decades. We have seen advances across the entire spectrum of the discipline. Developments in renal histopathology, molecular biology and clinical pharmacology have allowed us to make significant progress in the diagnosis and management of primary and secondary forms of glomerulonephritis. Haemodialysis has been refined and continuous dialysis techniques now allow us to successfully treat critically ill patients in intensive care units. The advent of modern immunosuppressive agents has resulted in impressive allograft and patient survival – in short, we are now able to diagnose kidney diseases accurately and quickly and renal replacement therapy (RRT) has enabled us to prolong our patients' lives – with reasonable quality of life, for decades.

The past 5 years, however, have seen a significant paradigm shift. The international nephrology community is now placing more emphasis on strategies for the detection and management of chronic kidney disease (CKD) at an early stage. There are several reasons for this. We have come to realise that CKD has reached the status of an epidemic, with as many as 1 in 10 adults being affected. Furthermore, recent data indicate that covert disease represents only the tip of the proverbial iceberg. Therefore the undiagnosed majority is obviously going to contribute enormously to the global burden of CKD. A major role player in this epidemic is, of course, diabetes mellitus. We are expecting a huge increase in the prevalence of this disease which will be accompanied by a corresponding increase in the prevalence of CKD. When one considers that the largest relative increases are expected to occur in developing areas such as sub-Saharan Africa and India and the enormous cost of RRT, the reason for concern (even alarm) is obvious! Lastly, there is now an appreciation that CKD itself constitutes a significant risk factor for the development of, and premature death from, cardiovascular disease (CVD).

Dr William Couser, the past president of the International Society of Nephrology (ISN) stated that 'the global burden of CKD and CVD can be significantly reduced by detection and prevention programmes that focus on the kidney'. To this end the ISN has developed a programme for the detection and management of CKD in developing countries. Other initiatives include ISN COMGAN (Commission for the Global Advancement of Nephrology) symposia and programmes for the detection and prevention of CKD and their partnership with the International Federation of Kidney Foundations to co-organise and lead World Kidney Day. Finally, Kidney Disease: Improving Global Outcomes (KDIGO), a recently established international organisation, is committed to developing a uniform and global public health approach to the worldwide epidemic of CKD (information on their strategies can be obtained at www.kdigo.org).

This edition of *CME* is therefore highly appropriate and I would like to thank Bridget Farham and her team for giving us the opportunity

to address this important subject. Our contributors are all respected opinion leaders and have submitted excellent reviews which cover the most important facets of the subject.

Professor Razeen Davids' article, 'CKD – The silent epidemic', makes sobering reading. He quotes statistics which highlight both the extent of the global CKD epidemic as well as the enormous gulf that exists between developing and developed countries as regards the availability of resources for RRT. He emphasises the need for public health programmes involving cooperation across disciplines to be instituted urgently in South Africa and other developing countries in order to reduce the morbidity and mortality from end-stage renal disease (ESRD) and its attendant cardiovascular complications.

This message is reinforced by Dr Ivor Katz. In his article 'Strategies for the early detection and management of CKD – tertiary and primary health care working together', Ivor presents the case for an integrated chronic disease detection and management programme. Ivor and his team are already running such a programme. Their chronic disease outreach programme (CDOP) was initiated in Soweto in 1999 and provides a good example of cooperation between primary health care practitioners and specialists based at a tertiary institution. They are currently focussing on the major risk factors (in high-risk individuals) for both CKD and CVD.

This issue of *CME* would not be complete without a review of the predialytic treatment of CKD. In his article, Professor Charles Swanepoel describes the physiological basis for the abnormalities that occur as CKD evolves to ESRD. Although specific drugs and dietary interventional strategies are generally only necessary at certain stages of disease severity, Charles emphasises that the disease represents a continuum of severity.

Cardiovascular disease is recognised as the leading cause of death in patients with ESRD throughout the world, and in their article 'Chronic kidney disease and cardiovascular disease' Dr Suman Maharaj and Professor D P Naidoo have done an extensive review of the subject. They emphasise the important link and interaction between CKD and CVD (even early CKD!) and discuss the pathogenesis of vascular disease in CKD as well as guidelines for management.

Professor Ben van Rensburg deals with the important subject of diabetes mellitus and CKD. He reviews the temporal sequence of events in diabetic nephropathy and gives clear recommendations for management and therapeutic goals at all stages of the disease. He stresses the need for meticulous management of these patients in developing countries such as South Africa because the high incidence of macrovascular disease and other extrarenal complications often excludes them from renal replacement therapy programmes.

HIV infection is currently placing an enormous burden on health care resources in sub-Saharan Africa. With patients living longer on HAART we will soon have to confront an even more formidable foe – the patient with HIV and ESRD. In their article 'CKD in HIV infection – early detection and preventive strategies', Dr June Fabian and Professor Sarala Naicker highlight the extent of the epidemic and the serious consequences the South African health care system faces. They discuss the spectrum of kidney disease that occurs in individuals with HIV and quote important local research. Finally,

they emphasise that there is a critical need for local research and commitment by state health departments in order to develop guidelines for the screening, early detection and management of renal disease in HIV-infected individuals.

Anaemia has always been recognised as a common complication of CKD. However, since the advent of commercially available erythropoietin, the management of renal anaemia has assumed tremendous importance. Benefits of early anaemia correction include an improvement in quality of life as well as a reduction in cardiovascular risk. Dr Geoff Bihl reviews the pathogenesis and gives clear guidelines for the management of anaemia in CKD. He also emphasises the important link between anaemia and CVD in CKD.

In countries with limited resources for RRT it is particularly important for doctors to search for and correct reversible causes for an acute decline in GFR. Failure to do so often results in patients being incorrectly diagnosed with ESRD, and, because of adverse socio-economic circumstances, such patients are either not referred to dialysis centres or are excluded from RRT programmes. In her article 'Acute renal failure in patients with CKD', Dr Nomandla

Madala points out that CKD itself is a strong risk factor for the development of acute renal failure, i.e. 'acute-on-chronic renal failure'. She discusses the various causes as well as an approach to management.

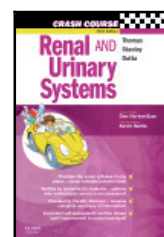
In conclusion, all the articles in this edition of *CME* complement each other and present a unifying and important 'take-home message'. CKD plays a central role in the global epidemic of chronic cardiovascular diseases and diabetes which has resulted in chronic non-communicable diseases displacing communicable diseases as the major cause of morbidity and mortality both in the developing and developed world. RRT is extremely costly and is not even available in many developing countries, so there is a need to develop effective preventive programmes at a primary health care level to detect and treat CKD at an early stage. This strategy would be effective in preventing progression to ESRD and would decrease the devastating attendant cardiovascular morbidity and mortality.

Finally, I must emphasise that the success of preventive programmes would be significantly enhanced by the involvement of multidisciplinary health care teams and government health departments.

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