



Lipidology: adding value to tertiary services

Atherosclerotic disease is increasing in the developing world¹ and is a prominent cause of morbidity and mortality in South Africa.² Atherosclerosis is mostly related to the co-existence of multiple risk factors. A portion relates to genetic dyslipidaemias, some of which are common, and most of which are amenable to treatment. Dyslipidaemias occasionally cause other complications, most notably pancreatitis. In this issue of the *SAMJ*, Firth and Marais³ and Pouwels *et al.*⁴ describe the Cape Town experience of familial hypercholesterolaemia (FH) (which occurs in about 0.2% of all populations) and chylomicronaemia, which is rare. Their recognition is important as appropriate management significantly improves the outlook.

Progress in lipidology. Understanding lipid metabolism and the pharmacological treatment of dyslipidaemia have progressed considerably. Lipidology brings together biochemistry, cell and molecular biology, genetics, physiology, nutrition, epidemiology, and many other clinical disciplines. Lipidologists apply existing therapeutic approaches (diet, lifestyle modification, pharmacotherapy) with skill, and investigate newer treatment strategies. At tertiary centres, detailed clinical assessments are complemented with appropriately directed laboratory investigation to define disorders, phenotypically and genotypically. The erroneous perception that such an approach is unaffordable prevents progress in understanding diseases that occur locally, and impairs effective management. A precise diagnosis improves prognosis and treatment, prevents or ameliorates suffering and complications, saves lives and money, and obviates irrelevant recurrent investigations and futile treatments.

Strains on specialised services. South Africa has few centres with lipidological expertise and, as with other specialised centres, these are strained by health care constraints.⁵ Unless circumstances improve, tertiary centres' contributions to the diagnosis, management, knowledge and research of local health problems will cease. Despite deteriorating circumstances, lipidology nevertheless remains productive by extending working hours and raising funds through contract research and the Medical Research Council (MRC) Cape Heart Group, to fund staff, equipment and chemicals. Optimal functioning of the lipid clinic is impaired by the fragmentation of its component functions under control of the Western Cape Province government, university and other research bodies, and the National Health Laboratory Services. The latter body closed down laboratories dedicated to special needs at tertiary centres. Increasing managerial control and bureaucracy make it difficult to provide efficient patient service, teaching, training and research. These factors have an adverse effect on health care provision to the private and public sectors, and

will moreover have a still greater impact on health care in the future.

Private and public health care. Statins account for a large proportion of private health care drug expense. Management of commoner dyslipidaemias is not difficult but is not necessarily standard or straightforward in all cases, and severe dyslipidaemias require special expertise. Private health care provides access to routine laboratory tests and a range of medication which may be controlled (with variable appropriateness) by medical aids. Some of the sophisticated laboratory assays available may not be applied appropriately. Dietitians may not be experienced in the management of severe disorders. Utilisation of tertiary public health facilities is ineffective for private sector patients in the Western Cape, as referral was proposed to be effected via the day hospital system.

In the public health care sector, the pressure of acute medical problems detracts from the detection and proper management of heritable lipid disorders, especially if instructions are given not to perform lipid investigations at primary health care level! Despite the planned increase in detection from improved primary health care, specialised centres are not receiving the support needed to meet the greater demand. Limited staff, restrictions on pharmacological treatment and lack of support for special diagnostic tests, as well as a lack of research into local disease, undermine the provision of optimal health care. Our lipid clinics are overloaded because patients cannot be referred out to their communities owing to restrictions placed on pharmaceutical agents – despite patients being well controlled on safe and inexpensive drugs. The overload results in delays for new and follow-up appointments, making it difficult to assess high-risk patients at shorter intervals and disrupting treatment because prescriptions expire. Dietetic support, which can profoundly improve many disorders, has been withdrawn. Relatives of patients with heritable disorders cannot be screened efficiently.

Primary health care problems and tertiary pressures. Our patients have expressed disappointment in the service at primary health care centres where, appropriately, medications are renewed at monthly intervals between tertiary centre visits. Queues form very early in the morning, and attendances take 5.4±2.2 hours. The situation improved with a new dispensing system, but it has now reached maximum capacity. The frequency of medication not being available or patients being provided with 'IOU' notes has thankfully declined. However, a recent survey revealed that 18% of patients did not receive medication at least once in 5 months; others had dose adjustments and inappropriate substitutions. Resentment was strong in 2001 when a 'tertiary levy' was imposed on lipid clinic patients attending community health centres, but



not for patients from other tertiary clinics. Patients generally had to pay in excess of the cost of the medication, which many could not afford. Instances were documented where payment was not followed by medication. Representations to the pharmacy, superintendents and higher authorities met with no success until the end of 2005. At times, medication was deliberately not supplied for the month before attending the tertiary hospital, thus precluding evaluation of the efficacy of treatment. These disruptions derogate from health care because even inappropriate dose substitution of statins increased cardiovascular complications within 6 months.⁶ Treatment of concurrent diseases such as blood pressure and diabetes in high-risk patients cannot be done properly in a busy clinic, especially if their control is not monitored at day hospitals in the intervening intervals. Frustrated patients have remarked that funds are spent by the government on avenues they regarded as extravagant and less important than health care.

Apart from overloading, limited therapeutic agents and delays in follow-up visits, tertiary services are hindered by different locations of the clinics, offices, and the more modern clinical and research techniques required for academic pursuit and laboratories. It is increasingly difficult to maintain tertiary health care because compensatory manoeuvres are no longer feasible in an environment of increasing administrative control that does not view tertiary health care holistically. Research funding bodies such as the MRC provide limited assistance, assuming that staff and infrastructure are in place. Clinical contract research, though providing modern treatment and some income to improve service to patients and tertiary activity, has become burdened with administrative procedures as well. Highly skilled professionals are similarly burdened and consequently contribute less to service, teaching and research. Burgeoning bureaucracy offers more attractive remuneration and working conditions than professional careers. Fewer young graduates are interested in academic or clinical careers. These trends disrupt continuity of expertise, and block the introduction of new techniques and approaches as well as insight into local problems. Diminishing publications and the departure of graduates into private practice or overseas attest to these problems, and create concerns about succession and future health care.

Although South Africa has a good record of investigation into familial hypercholesterolaemia,⁷⁻⁹ much more needs to be done to fully characterise severe dyslipidaemias and translate therapeutic developments into practice. We require multidisciplinary teams that integrate clinical practice, clinical research, specialised laboratory diagnostic procedures and laboratory research. The academic base is the appropriate place for clinical science.¹⁰ There is an urgent need to re-establish tertiary units, with adequate funding and infrastructure including efficient networks, so that expert diagnostic and management assistance can be efficiently provided to all sectors of health care without disruption from multiple organisational structures and administration. Special centres are justified, at least in the larger provinces, to cater for all sectors of the population with severe disorders. Appropriate networking and a centralised laboratory facility could serve a country with more than 50 million people aspiring to their rights of access to health care and cost-effective management.

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