



afford this method of treatment. The lack of available endovascular expertise in many state and academic hospitals is related in part to the high costs related to these cases, but also to a lack of neurointerventional expertise within many academic and state institutions. Neither interventional radiology nor neurointervention is recognised locally as a subspecialty despite the availability of such expertise in the four major centres. As a result there is extremely limited exposure by radiologists or neurosurgeons-in-training to these techniques in South Africa.

We trust that this article will serve to dispel some of the misunderstandings and misconceptions surrounding endovascular treatment of cerebral aneurysms in South Africa. Despite these high-tech methods of treatment lying somewhere near the pinnacle of quaternary-level medicine in a country where there are far more pressing health-related and socio-economic problems, it is nevertheless important that neurointerventional expertise be retained and indeed promoted

locally to ensure equity with the rest of the world and improved access to these treatment methods by all South Africans.

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World pandemic of obesity — any hope of its being controlled?

How severe is what has authoritatively and eloquently been called 'this staggering epidemic of obesity'?¹

According to the World Health Organisation (WHO), more than 300 million adults worldwide are obese; about 115 million live in developed countries.² Obesity is such that in the USA, now deemed 'the fattest nation on earth', it results in 300 000 deaths annually.¹ Indeed, the ominous belief is that obesity will soon replace smoking as the most powerful preventable risk factor.³ Its severity in certain countries and populations is indicated in an official Australian report, published in 2001,⁴ which states that about 40% of Australians are overweight and 20% obese. As to sequelae, for example the occurrence of diabetes, which is very largely precipitated by weight gain,⁵ 1 in 4 Australians aged 25 or older has diabetes or is at high risk of developing the disease in the next 5 - 10 years.⁴ A further illustration, particularly in relation to obesity's rising trend, is that in the USA the age-adjusted prevalence of the condition (body mass index (BMI) > 30) was 22.9% in 1986 - 1994, whereas by 1999 it had risen to 30.5%.⁶ In the particular section of the US population most affected, namely African American women, more than half of those aged 40 years and older were found to be obese, and more than 80% overweight.⁶

What was the situation in the past? Historically, obesity remained uncommon in developed populations⁷ until early in the 20th century. Since then there have been major rises in its occurrence in numerous countries, although to a highly

variable degree. Thus, in a comparison undertaken in 1990 - 1994, prevalences in US white men and women were found to be 20% and 22.4%, respectively,⁸ while in France prevalences were far lower at 6.5% and 7.0%.⁹ In Japan, remarkably, prevalences were uniformly very low at 1.8% and 2.9%, despite a considerable rise in the country's socio-economic state.¹⁰

Two or more generations ago there was very little weight gain with age in African populations.¹¹ This is still the case in a number of less advanced countries, e.g. Tanzania, where the prevalence of obesity in black women is very low at 1.9%.¹² In South Africa the mean prevalence of obesity among black women in North West province, predominantly rural dwellers¹ has risen to 28.6%,¹³ while among women in Cape Town it has risen to 34.4%,¹⁴ and in Durban to 22.6%.¹⁵ One of the puzzling features in the occurrence of obesity in African populations is that the proportion of men affected is much lower, for example, 2.9% in North West,¹³ 7.9% in Cape Town,¹⁴ and 3.7% in Durban.¹⁵

As for sequelae, previously in rural areas in South Africa the association between obesity and hypertension was slight.¹⁶ In 1988 this was also the case with regard to hypercholesterolaemia and hyperglycaemia where, in a study of obese African women and controls in the city of Soweto, the proportion affected by these parameters did not differ significantly.¹⁷ However, in recent years the association between obesity and the parameters mentioned has become more



pronounced in both rural and urban areas.^{13,18} Currently, the most adverse of sequelae, coronary heart disease (CHD), continues to remain relatively uncommon.¹⁹ As will be appreciated, much research is needed for clarification. Conceivably the sequelae, at least with regard to CHD, would seem less perilous in obese Africans than in obese whites. In this respect it is noteworthy that in the USA obese African American women have a longer survival time than obese white women.²⁰

As to causation, there is a strong genetic influence. While about 25 - 30% of cases occur in families with normal-weight parents, the relative risk of having an obese offspring reaches 2.5 when one or both parents are obese.²¹ The two most influential factors regarding overweight and obesity are level and composition of food intake, and extent of physical activity. In 1930 - 1940 the populations of the UK and most other developed countries were characterised by a high consumption of cereal products, a relatively low consumption of fat and sugar, and a high consumption of vegetables and to a lesser extent of fruit.²² Nowadays, the consumption of bread and of other cereal products and vegetables is much lower, but fat consumption is much higher.²³ As regards physical activity, in the past a high proportion of workers were physically actively employed, directly or indirectly, especially in food production. Nowadays, the level of physical activity among workers is far lower; importantly, that of the young has fallen considerably.²⁴ These factors coupled with increased incidence of smoking among the young²⁵ may lessen life expectancy markedly, especially among younger adults.²⁶

The salient practical question is whether there really is any hope of lessening the occurrence of obesity.¹ It has been urged that the primary aim should be to inculcate healthy eating habits, rather than simply to urge restriction of food intake.²⁷

Attempts to decrease the occurrence of obesity that focus primarily on changing individual behaviour have very largely been ineffective. It has been estimated that in 2002 the total cost of treating overweight and obesity in the USA was US\$117 billion, nearly 10% of US health care expenditure.³ Despite this, the proportion of obese people has increased 'alarmingly'.^{6,28,29} As regards physical activity, in the past attendance at school physical exercise classes and school games was virtually compulsory. However, in the USA there has been 'a precipitous drop in levels of activity during adolescence'.³⁰ An important risk factor in this respect is the number of hours spent watching television. In the case of the young this often equals the time spent at school. In the light of the above the rising occurrence of obesity is understandable.

With regard to endeavours to avoid obesity or to reduce its occurrence, the extent of the efforts made and the results obtained are almost uniformly disappointing. A recent study³¹ in the USA involved African American women attending 6 - 12 educational sessions. Participants 'learnt to read food labels, to

calculate fat content, how to reduce intake of fat at fast food restaurants, and, in one study they also tasted foods, modified favourite recipes, made use of label information, and participated in discussions regarding the health consequences of obesity and difficulties in making changes in lifestyle'. Disappointingly, at the conclusion of the study no differences were found in BMI levels between participants in the intervention and control groups.

So what can be done? Can anything be done? An editorial in the *Lancet*³² urged 'that health centres should be sited where the public congregate, such as supermarkets and sports centres. Public officials should seek the advice of public relations experts, advertising specialists and retailers.' A WHO report on obesity,²⁷ previously cited, has stated that 'obesity will not be prevented simply by telling individuals and communities to change their diet, and exercise behaviours. What is needed is a radical improvement in the social, cultural and economic environment, through combined efforts of government, the food industry, the media, communities and individuals.' The usual advice, namely to 'eat more of this', and 'less of that', no matter how encouragingly expressed and attractively illustrated, generally does not engender the sustained motivation essential for long-term weight loss. Indeed, we often hear the humorous cry, 'I don't want to change my diet, and I don't want to exercise; I just want to be skinny. Give me the pill that will make me skinny.'³³ Unfortunately, the envisaged magic bullet is far over the horizon.³⁴ Interestingly, however, in Shakespeare's play *Julius Caesar*, Caesar preferred to have men around him 'who are fat', not those with a 'lean and hungry look' like that of Cassius.

A highly important point to appreciate is that despite the rising occurrence of obesity, human lifespan is increasing. Indeed, according to the *Lancet*, 'survival to 100 or more may become the norm'.³⁵ However, it is also important to appreciate that the years of 'healthy life expectancy' are not increasing, but are perhaps diminishing. If the present rate of increase in obesity continues in the USA, it has been estimated that 'all Americans will be obese' by the year 2230'.³³ The longest healthy life expectancy occurs in the Japanese (74.5 years).³⁶ The USA is ranked 24th with 70 years. It has been strongly urged that countries take a hard look at the many reasons that have allowed fatness to flourish, and seek to act now to stem the continuing increase in occurrence of obesity.¹

Understandably, a primary endeavour should be to combat obesity among children,³⁷ the prevention of which, as recently stressed, appears to be 'eluding our grasp'.³⁸

Since in developed countries great difficulty is being experienced in striving to control further rises in the occurrence of obesity, the magnitude of the task faced in developing populations, particularly among urban dwellers, will be appreciated.

In brief, the combating of obesity worldwide, especially



among the poor, appears to be an almost insoluble problem. Unfortunately, in most populations there is little sustained concern over the commonness of overweight and obesity.

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