

medical schools could be saved by closing one of them); but in the absence of any clear guidelines to that effect it seems unlikely that any of the metropolitan regions will solve its financial dilemma by such draconic measures. Even at a less dramatic level regions know from experience what to expect. Attempts to close hospitals (the Elizabeth Garrett Anderson, for instance) bring opposition from pressure groups and unions, questions in Parliament, and endless appeals and inquiries. Cutting budgets by an equal "fair" amount all round is administratively easier and less provocative: the effects are spread widely and protests cannot be so specific.

Some small hospital closures may be inevitable in the metropolitan area, but major closures and movements of medical staff will be needed to redress the historic imbalance. This is the missing element in the report, and without it the programme could be disastrous. The only way that centres of excellence can survive in London with a shrinking share of the NHS budget is for the number of major hospitals to be reduced. That is not a policy that the regions can be expected to push through without a lead from the top. Does the DHSS want the numbers of hospital beds (including teaching hospital beds) in London reduced? If so it should say so unequivocally and support the policy. If not, its proposals will inevitably lead to a remorseless drain of resources and morale from London's medicine, to the detriment of the whole country.

¹ DHSS, *Sharing resources for health in England. Report of the Resource Allocation Working Party*. London, HMSO, 1976, £1.70.

Diet and the diabetic

Even the threat of dietary restriction is unwelcome to most of us; yet physicians have traditionally emphasised the importance of diet in the treatment of a whole variety of diseases. Its special importance in diabetes has long been recognised,¹ and even since the introduction of insulin dietary control has continued to be an essential part of management.

The chief purpose of dieting for the insulin-treated diabetic is the relief of symptoms of uncontrolled diabetes while avoiding those of hypoglycaemia. This can be achieved only by maintaining the daily carbohydrate allowance constant and taking it at regular times. Good metabolic control, however, means much more than just the elimination of symptoms,² for poor control causes retardation of growth in children³ and high fetal mortality in pregnancy.⁴ In extreme cases years of inadequate treatment may result in dwarfism. Growth rates certainly accelerate with better control, though childhood diabetics still suffer some stunting of growth even when clinical control seems satisfactory.⁵ The benefit of good control on the development of diabetic complications is less certain. Apart from the possible advantage in some cases of lowering plasma lipid concentrations, there is no scientific proof that prevention or reversal of complications can be achieved by improving diabetic control. This controversial question has been reviewed by Fajans⁶ and Keen and Jarrett.⁷

The composition of the ideal diet for insulin-treated patients is continually debated. In the pre-insulin era the Allen diets were virtually free of carbohydrate, having instead a very high fat content. Over the last 50 years the carbohydrate allowance

has increased. Compared with the average intake for normal British men of about 380 grams⁸ (some racial groups, notably West Indians, take much more), most diabetics are recommended to take between 100 and 250 grams daily, depending on age, weight, activity, and previous dietary habit. Very restricted carbohydrate diets have the disadvantage that many patients add to them by increasing their fat intake, and this has led to the suspicion that such diets may increase the risk of atherosclerosis. A generous carbohydrate intake is more acceptable to most patients and, on an isocaloric basis, means that less fat is eaten.

One problem of a high carbohydrate diet may be the need for much larger doses of insulin. Nevertheless, it seems that the insulin requirement may be relatively little affected by an increase in carbohydrate intake provided that the calorie total remains unchanged,^{9,10} though further observations are needed. The use of higher carbohydrate diets was discussed at a recent symposium in Australia,¹¹ and has been recommended in the USA,¹² but patients need to be told that simply increasing the carbohydrate intake without restriction of total calories leads to a deterioration of control. Many of them can recognise the recurrence of symptoms which follow dietary indiscretion.

When diabetics fail to keep to the recommended regimen^{13,14} (though those on insulin are more assiduous than others) this may sometimes be the fault of the presentation of diabetic diets,¹⁵ which is not always helpful and in some instances inaccurate.¹⁶ There is still debate on the right size of the carbohydrate "portion," but in practice the 10-gram portion recommended by the British Diabetic Association seems the simplest and the best. Patients should be left in no doubt that a constant daily intake of carbohydrate should be taken at regular times. The amount of carbohydrate should be tailored to meet individual needs, but it may be more generous than in the past,^{12,17} with consequent restriction of fat intake. Partial substitution of saturated fats by polyunsaturated fats and vegetable oils has recently been suggested for the diabetic (as it has for the whole community¹⁷), though the evidence does not warrant dogmatism. The exact balance of fat and carbohydrate may need to be determined by reference to plasma lipid concentrations. Protein intake should be normal. There is no place for the "free" diets, which have sometimes been recommended for children. Any attempt at control is then doomed to failure. Continuing education is required to maintain interest and motivation.¹⁸

¹ Wood, F C, and Bierman, E L, *Nutrition Today*, 1972, 7, 4.

² Alberti, K G M M, and Hockaday, T D R, in *Complications of Diabetes*, eds H Keen and J Jarrett, p 222. London, Arnold, 1975.

³ Pond, H, *Postgraduate Medical Journal*, 1970, 46, 616.

⁴ Essex, N, *British Journal of Hospital Medicine*, 1976, 15, 333.

⁵ Tattersall, R B, and Pyke, D A, *Lancet*, 1973, 2, 1105.

⁶ Fajans, S S, *Diabetes*, 1972, 21, suppl 2, 678.

⁷ *Complications of Diabetes*, eds H Keen and J Jarrett. London, Arnold, 1975.

⁸ Widdowson, E M, *Journal of Hygiene*, 1936, 36, 269.

⁹ Himsworth, H P, *Clinical Science*, 1935, 2, 67.

¹⁰ Kempner, W, Peschel, R L, and Schlayer, C, *Postgraduate Medicine*, 1958, 24, 359.

¹¹ Whyte, H M, *Medical Journal of Australia*, 1976, 1, 836.

¹² Bierman, E L, et al, *Diabetes*, 1971, 20, 633.

¹³ Tunbridge, R, and Wetherill, J H, *British Medical Journal*, 1970, 2, 78.

¹⁴ West, K M, *Annals of Internal Medicine*, 1973, 79, 425.

¹⁵ Truswell, A S, Thomas, B J, and Brown, A M, *British Medical Journal*, 1975, 4, 7.

¹⁶ Thomas, B J, Truswell, A S, and Brown, A M, *Nutrition*, 1974, 28, 357.

¹⁷ Royal College of Physicians of London and the British Cardiac Society, *Journal of the Royal College of Physicians of London*, 1976, 10, 214.

¹⁸ Teuscher, A, *Acta Diabetologica Latina*, 1972, 9, suppl 1, 546.