Wernicke's encephalopathy and hyperemesis gravidarum

EDITOR,—In their lesson of the week describing Wernicke's encephalopathy and central pontine myelinolysis after prolonged treatment with intravenous fluids for hyperemesis gravidarum P S Bergin and P Harvey do not consider an alternative biochemical explanation for their findings—namely, phosphate depletion.[1]

Prolonged vomiting and infusion of phosphate free fluids have well recognised associations with hypophosphataemia, which, like thiamine deficiency, may worsen acutely after a carbohydrate load. This is well described in patients undergoing refeeding after starvation.[2] Hypophosphataemia has adverse effects on many organs, including the central nervous system, and may give rise to a syndrome resembling Wernicke's encephalopathy.[3]

The presumed mechanism for these multisystem effects is a fall in the availability of high energy phosphates, especially ATP.[4] Thiamine itself is not an active cofactor until it has been phosphorylated by thiaminokinase—an ATP dependent step. Red cell transketolase activity would be low and show an increased thiamine pyrophosphate effect since the pyrophosphate form, and not necessarily thiamine itself, would be lacking. Hypophosphataemia should therefore be considered in Wernicke's encephalopathy, even if there is apparent biochemical evidence of thiamine deficiency.

We endorse the recommendation that thiamine supplements should be given to patients with prolonged vomiting but would go further. Patients should not be given prolonged intravenous treatment consisting only of saline and dextrose solutions as nutritional deficiencies will invariably develop; these will be unlikely to be corrected by replacement of a single nutrient alone. This is especially important in pregnancy, when the metabolic requirements are much greater, thereby lowering the threshold for the appearance of nutrient depletion.

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Exercising for health

EDITOR,—Daphne Gloag highlighted the low levels of physical activity among all ages and the risk factors for cardiovascular disease and other conditions from physical inactivity.[1] The benefits of increased physical activity in school children, adults, and older people have been well documented.[2-5]

The 1990 general practitioner contract included the concept of health promotion and disease prevention by allowing health promotion clinics. Exercise counselling was included in the list of clinics. I have argued for exercise counselling clinics to take place in venues outside the surgery, including village halls, leisure centres, education establishments, and church halls, by using qualified staff and paying them from the monies received from family health service authority health promotion clinics.[6] Patients with cardiovascular disorders, asthma, osteoporosis, arthritis, and neurological disorders, and elderly patients have benefited from these clinics, and in some cases medication has been reduced.

Health promotion clinics ceased to exist from 1 July 1992, and a new banding procedure will be introduced from April 1993. Health promotion will be based on key target areas as outlined in *The Health of the Nation* white paper.

Increased physical activity for all age groups will result in an improvement in the nation's health, and in a reduction of medication and an improvement in the quality of life for many people. But if health promotion clinics, including exercise counselling clinics, are abolished and community resources like leisure centres, village halls, and education centres cannot be used, then the primary care team's interest in promoting physical activity will be reduced.

General practitioners should be encouraging their patients to use these community resources to improve their health and lifestyle. *The Health of the Nation* encourages the concept of healthy alliances, healthy cities, healthy schools, and healthy workplaces. Why not healthy villages? Rural areas have health needs, and primary care can take a lead role in promoting physical activity for "health gain." We must encourage the negotiators who are deciding the new concepts for health promotion in general practice to support physical activity counselling to help reduce the risk factors of inactivity and to support the uses of community resources to improve the health of our nation.

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EDITOR,—Daphne Gloag states that doctors are in a key position to encourage people to take exercise.[1] Local general practitioners have been operating a system of referrals to the Lagoon Leisure Centre in Hailsham for the past 18 months. Up to 20 general practitioners refer patients for a course of exercise. The medical benefits of the project have been, to quote one of the doctors, "amazing"; anecdotal experience suggests that the psychological benefits are also considerable.

The people referred by the general practitioners differ greatly from self referrals. Our local research programme indicates that barriers to participation such as shyness and negative preconceptions about sport are greater in those referred by general practitioners, who, by definition, are people who did not previously use the centre. Our research programme found that 74% of people in our catchment area who did not use the centre said that "nothing could be done to attract them to use the Lagoon Leisure Centre."

In one specimen general practice 56 people attended at least once for a 10 week exercise programme; 48 completed the course and 36 continued to use the centre regularly. In another practice 47 out of 50 people referred for a six week course turned up; 42 completed the course and 26 became regular users of the centre. This seems to indicate that reasons for non-attendance such as "lack of time," "too old," and "not enough energy" may just be masking personal sensitivities.

By using the power of the general practitioner to bypass the traditional barriers to participation and by getting the centre's staff to introduce patients to fitness programmes sympathetically, successful adherence to healthier lifestyles can be achieved. This is good news for general practitioners, who will have an additional weapon in their armoury; the government, because a fitter population will place fewer demands on the NHS; the leisure centres, which will have a completely new market; and most of all, the patients, who are being empowered to take responsibility for their health.

Other leisure managers have recognised the benefits of the project in Hailsham, and 42 leisure centres throughout the country wish to set up similar schemes. What they need are general practitioners who would be willing to join these schemes. The Wealden District Council model in Hailsham has been extended to use nurses, community health workers, and social services, and we have received funding to evaluate the results of our work.

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1 Gloag D. Exercise, fitness, and health. *BMJ* 1992;**305**:377-8. (15 August.)

Day surgery for cataracts

EDITOR,—Hugh F Thomas and Roger Humphry emphasise that attitudes within the ophthalmic profession still present a major block to greater use of day surgery for cataracts.[1] This will change, and rapidly. Day case ophthalmic surgery has obvious benefits for both the patient and the system. It is suitable for a wide range of procedures and has been shown to work in several centres and countries. Moreover, those who have started using day case surgery have not reported problems and reverted to inpatient care.

Thomas and Humphry state, however, without giving a reference, that "day case cataract surgery is unsuitable for training junior ophthalmologists." What is the basis for this comment? Over the past 10 years my team has performed day case surgery on virtually all children, and for the past three years we have used it for a smaller but increasing proportion of adults. The use of trainees has not been a problem. Why should it be? The difference between day case and inpatient ophthalmic surgery lies not in the surgical procedure itself but in the preoperative and postoperative management.

This is not a trivial issue as almost all ophthalmic units play a part in training. Precluding trainees from doing day case work would curtail training, encourage entrenched attitudes, and also restrict the shift to day case work, which would be most significant in the larger training centres. Precluding them does not make sense as once they have achieved consultant status they could be expected to treat at least 80% of cataracts as day cases, as already happens in the United States. This misconception that day case cataract surgery is unsuitable for ophthalmologists in training must be laid to rest immediately if we are to improve the surgical services to our patients.

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AUTHORS' REPLY,—Our statement was based on a guidance note from the College of Ophthalmologists, which suggests that "A very high level of surgical expertise is required to minimise post-