

is free to decide that these extraordinary procedures for prolonging life do not confer a good enough quality of life to make them suitable for all patients dying of renal failure. Not to treat may be kinder and wiser. Nevertheless, much of the present disquiet over selection of patients for dialysis and transplantation under the NHS is being voiced by organisations representing patients. Their views and the whole policy need a full and frank debate in the open.

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- ² Wing, A J, et al, *Proceedings of the European Dialysis and Transplant Association*, 1978, 15, 3.
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- ⁴ Gurland, H J, et al, *Proceedings of the European Dialysis and Transplant Association*, 1975, 13, 3.
- ⁵ Donckerwolcke, R A, et al, *Proceedings of the European Dialysis and Transplant Association*, 1978, 15, 77.
- ⁶ Office of Health Economics, *Renal Failure—a Priority in Health?* London, Office of Health Economics, 1978.
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- ⁸ Executive Committee of the Renal Association, *British Medical Journal*, 1976, 2, 903.

Young people who sleep badly

Where unbruised youth with unstaff'd brain
Doth couch his limbs, there golden sleep doth reign

Friar Laurence in *Romeo and Juliet* wistfully expressed a feeling common among the middle-aged—that the young are endowed with easier sleep. Surveys of 2500 people in Scotland¹ and 1600 in Florida² have confirmed that the older people become the more they are dissatisfied with their sleep, and the more often they take pills for it, especially women. Nevertheless, among the 400 15-24-year-olds in the Scottish study there were 5% who regarded their sleep as disturbed and often took pills, whether prescribed drugs or remedies bought from pharmacists; while 6% of the 18-19-year-olds in Florida said that they found it difficult to sleep.

Poor sleepers of all ages think they are troubled by their nerves, and the young are no exception. Monroe³ selected from among 200 a group of 16 (median age 23) who considered themselves particularly poor sleepers and a similar group of 16 particularly good sleepers. The groups differed in their responses to the Cornell Medical Index and to a personality inventory, the poor sleepers appearing to have a depressed outlook. Johns⁴ with 104 medical students of mean age 21, also found that complaints of poor sleep and nightmares were associated with psychological problems, and especially with low self-esteem. Over half of another group of 48 patients, aged 18-29, who had come with a primary complaint of insomnia,⁵ were depressed; while in an American national survey of adolescents who were receiving psychotherapy poor sleepers consistently presented more neurotic features and the good sleepers more psychopathic characteristics.⁶ Monroe also compared his good and poor sleepers in a sleep laboratory, and found differences such as higher heart rates and body temperatures through the night in the poor sleepers. Johns⁷ found higher corticosteroid concentrations throughout the 24 hours, which suggests that in those who think they are poor sleepers conditions may indeed be less favourable for the tissue restoration that is associated with sleep.⁸

In a sample of 639 American highschool pupils 12% thought they had persistent sleep problems, including taking minutes or more to fall asleep at least three times a week, waking in the night for 30 minutes or more at least 11 times a week.⁹ There were more girls than boys, and they were distinguished from the other adolescents by worry and tense personal and family problems; low self-esteem; and feeling moody and "down in the dumps" most of the time.

The results of this survey suggest that, as with adults, psychological problems are primary and lead to the complaint of poor sleep. Among the 23 pupils who said that they usually had only three to five hours' sleep were 12 who were chronic poor sleepers, but the other 11 had no complaints and were categorised as good sleepers.

The authors of this Californian study urge that these young people should be recognised more often both by teachers and by doctors and other health workers. They might be helped through "self-management" and education in such techniques as progressive muscle relaxation and meditation. But, more important, they recommend that the doctor should avoid prescribing hypnotics for these poor sleepers.

- ¹ McGhie, A, and Russell, S M, *Journal of Mental Science*, 1962, 108, 64.
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- ³ Monroe, L J, *Journal of Abnormal Psychology*, 1967, 72, 255.
- ⁴ Johns, M W, Bruce, D W, and Masterton, J P, *British Journal of Medical Psychology*, 1974, 47, 181.
- ⁵ Kales, A, et al, *Archives of General Psychiatry*, 1976, 33, 1128.
- ⁶ Monroe, L J, and Marks, P A, *Journal of Clinical Psychology*, 1977, 33, 26.
- ⁷ Johns, M W, et al, *Psychosomatic Medicine*, 1971, 33, 499.
- ⁸ Adam, K, and Oswald, I, *Journal of the Royal College of Physicians*, 1971, 11, 376.
- ⁹ Price, V A, et al, *American Journal of Diseases of Children*, 1978, 132, 583.

Freeze-dried factor VIII concentrates and the NHS

Bleeding in classical haemophilia (haemophilia A) is due to a deficiency of factor VIII coagulant activity, and its treatment consists in giving intravenous injections of material rich in this factor. Human factor VIII is best, but in patients who have antibodies to factor VIII animal factor VIII may also be of value.

At present human factor VIII is available in Britain in the form of cryoprecipitate prepared by the National Blood Transfusion Service or as a freeze-dried protein concentrate prepared by the NHS fractionation laboratories in London, Edinburgh, and Oxford. The introduction¹ of cryoprecipitate as a source of factor VIII in 1964 was an important step forward in the management of haemophilia and did much to improve the lot of haemophiliacs, but it is difficult material to handle, is variable in potency from bag to bag, and needs to be stored at temperatures below -20°C . In contrast, the freeze-dried factor VIII concentrates have the advantages of known potency, stability at -4°C , ease of reconstitution before transfusion, and a low risk of allergic reactions. These advantages are of particular importance now that home treatment is being used increasingly in the management of haemophilia,² and haemophilia centre directors generally agree that most if not all of the material used to treat haemophilia in Britain should be freeze-dried concentrate, preferably made within the NHS.³

Unfortunately, the amount of factor VIII concentrates made by the NHS fractionation laboratories still falls far short

needs of haemophiliacs. The most recent published survey for the year 1975, showed that there were some 3000 known haemophiliacs in Britain, two-thirds of whom required replacement treatment with factor VIII at frequent intervals. These patients had received about 25 million units of factor VIII in that year. Of the material used, 65% was in the form of cryoprecipitate; 12% freeze-dried NHS concentrate; and 23% commercial factor VIII. In 1977 there is every indication that nearly 40m units of factor VIII were used for the treatment of haemophilia: 36% was in the form of commercial concentrates; 29% NHS freeze-dried concentrate; and 35% cryoprecipitate. Commercial concentrates cost about 10 pence per unit of factor VIII activity, so that this use of commercial material represents a cost to the NHS of about £1.5m per annum. This is money that many experts think would be better spent in promoting the manufacture of factor VIII and other important plasma fractions within the NHS.

Besides the problem of cost there is also growing concern about the increased risk of transmitting hepatitis with commercial factor VIII concentrates prepared from large pools of plasma. Blood collected from paid donors (the source of most commercial concentrates) is 10 times more likely to contain hepatitis B virus than is blood collected from unpaid donors by national blood transfusion services.⁵ Craske *et al*⁶ have recently published the results of a retrospective survey of transfusion hepatitis associated with certain brands of commercial factor VIII.

The shortage of factor VIII in Britain has been widely publicised in the past few years.⁷⁻¹⁰ In 1975 the Government claimed in the House of Commons that Britain would be self-sufficient in factor VIII by July 1977, and to this end a grant of £0.5m was given to the Blood Transfusion Service. Now, three years later, we are still not self-sufficient, and one-third of all the factor VIII used has to be purchased from commercial firms. Why is this? It is not lack of skill, since some of the most able and experienced plasma fractionators in the world work in Britain. It is not lack of fractionation facilities: there are three fractionation centres in the country, none of which is working at full capacity, though to meet the target of 40m units of freeze-dried factor VIII per annum there will almost certainly be a need for extension of facilities in both blood transfusion and fractionation centres. Shortage of plasma is probably not an important reason, though the supply of plasma available for fractionation is still limited by the resistance of some physicians and surgeons to the use of red cell concentrates instead of whole blood.

The explanation of the shortage probably lies in the fact that even with adequate financial support it is difficult to switch from relatively small-scale to very large-scale production in under five years. Major changes are needed in blood transfusion practice, plasma transport, plasma processing, and distribution of products. The outlook is not all pessimism, however. We may not have reached the rather optimistic target set by the Department of Health in 1975, but there is already evidence of a substantial increase in the amount of factor VIII produced within the NHS, with production in 1977 twice that in 1976. All the factor VIII needed in Britain could be provided by the NHS laboratories in the form of freeze-dried concentrates provided that the DHSS invests enough money in blood transfusion centres and fractionation centres and has clear plans for the transition to self-sufficiency.

¹ Poole, J G, Hershgold, E, and Pappenhagen, A, *Nature*, 1964, 203, 312.

² Jones, P, *et al*, *British Medical Journal*, 1978, 1, 1447.

³ Biggs, R, *British Journal of Haematology*, 1977, 35, 487.

⁴ Biggs, R, and Spooner, R J D, *British Journal of Haematology*, 1977, 36, 447.

⁵ Maycock, W d'A, *British Medical Bulletin*, 1972, 28, 163.

⁶ Craske, J, *et al*, *Journal of Hygiene*, 1978, 80, 327.

⁷ Biggs, R, *Lancet*, 1974, 1, 1339.

⁸ *Yorkshire Post*, 17 January 1975.

⁹ *Sunday Times*, 16 February 1975.

¹⁰ *British Medical Journal*, 1975, 1, 234.

Virus meningitis

We might argue that viral meningitis has been overshadowed by its more flamboyant bacterial counterpart. The dramatic alterations in consciousness and the florid skin lesions found in meningococcal infection contrast with the diffident, quiet presentation of the viral form of meningitis, which probably means that many cases are missed.

Patients with mild meningeal signs and a predominantly lymphocytic pleocytosis in the cerebrospinal fluid are most likely to have some form of viral infection, but it is crucial to remember that the terms viral meningitis and aseptic meningitis are not synonymous. Even in apparently typical cases the clinical diagnosis should initially always be aseptic meningitis, appropriately modified in the light of laboratory findings. As well as the many possible viruses other infections that can produce aseptic meningitis include leptospirosis, syphilis, tuberculosis, brucellosis, and cryptococcosis; infiltration of the meninges with malignant or granulomatous tissue, cerebral abscess, and the meningeal inflammation found in collagen diseases or caused by introduction of drugs or contrast medium may occasionally produce diagnostic difficulties. At the bedside the three most important conditions that demand differentiation are space-occupying lesions, tuberculous meningitis, and viral meningitis.

A tumour or abscess in the central nervous system which does not produce focal neurological signs is a cause of real difficulty. The correct diagnosis may not become apparent until the progress of the condition sets it apart from the expected benign course of a viral meningitis. Nevertheless, modern scanning techniques have helped in the early differentiation of these lesions. Tuberculous meningitis, though now rare in Britain, must always be considered in the differential diagnosis. In typical cases the characteristic findings in the cerebrospinal fluid (CSF) will help to differentiate viral and tuberculous meningitis, but in very many cases the overlap is so great that the results of a single examination cannot be relied on to solve the clinician's dilemma. The bromide partition test¹ or measuring the immunoglobulin concentration in CSF^{2,3} may occasionally help, but repeated CSF examinations, at, say, 24-hour intervals, which indicate a falling glucose concentration with a stable blood glucose and an increase in cell count, often in the absence of acid-fast bacilli, may well be the only indication that the true nature of the infection is tuberculous. A cautionary tale emphasising these difficulties is told by Emond and McKendrick,⁴ who reported four cases of lymphocytic meningitis with spontaneous recovery whose clinical course could in every way be said to correspond to a typical viral meningitis. *Mycobacterium tuberculosis* was subsequently isolated from the CSF in all four patients. Reports from the preantibiotic era include several authenticated cases of tuberculosis as a transient cause of aseptic meningitis—not always with such a happy outcome.^{5,6} In doubtful cases samples of lymphocytic CSF should always be cultured for tubercle bacilli.

Because many patients today receive antibiotics as symptomatic treatment partially treated bacterial meningitis must be included in the differential diagnosis. In these circumstances