

by 2000, and one (for community medicine) to the requirement "over the next 10 years."

No discussion of medical manpower can make sense without specific assumptions on career structure. Maynard and Walker gave some arbitrary figures to the probability of promotion through the training grades (once again similar to those of other published studies<sup>5</sup>) and hence arrived at figures for the numbers of registrar posts required to accommodate British graduates. In contrast, the DHSS paper showed merely the number of registrar posts needed to give each specialist trainee two years in the grade—hardly an adequate assessment. Its forward look began with the likely number of candidates for career vacancies over the next 10 years and ended with the number of British graduates who might be occupying training posts, at all levels, in the tenth year from now—a computational non sequitur not easy to unravel. Maynard and Walker referred to some tentative work<sup>6</sup> on the question of what constituted "consultant" work, making their comment more constructive than the DHSS paper's bald statement that nothing is known on this point. Clearly both groups recognised the urgent need to attend to the career structure—on which the profession itself is still divided—but neither report dealt satisfyingly with even the short-term issues.

The twin themes running through both reports are the lack of data and the need for further research. The questions posed have already troubled the profession for an uncomfortably long time. In the introduction to the discussion document, the DHSS defines its aim as setting out "as a basis for debate the assumptions underlying the present medical manpower policy and the broad developments that could be expected to flow from that policy" and to identify areas for further research. Indeed, the profession's representatives were opposed to the DHSS proposing any new policy: the doctors on the Central Manpower Committee wanted a factual document. Let us hope that the debate which the discussion paper is intended to initiate will lead to some clear decisions on manpower. The NHS cannot survive another 30 years of ad hoc policies.

<sup>1</sup> Maynard, A, and Walker, A, *Doctor Manpower 1975-2000: Alternative Forecasts and Their Resource Implications*. Report for the Royal Commission on the National Health Service, Research Paper No 4. London, HMSO, 1978.

<sup>2</sup> Department of Health and Social Security, Scottish Home and Health Department, Welsh Office, *Medical Manpower—the next Twenty Years*. A discussion paper. 1978.

<sup>3</sup> Beaumont, B, *Lancet*, 1978, **2**, 1073.

<sup>4</sup> Parkhouse, J, *Medical Education*, 1978, **12**, 230.

<sup>5</sup> Parkhouse, J, *Proceedings of the Royal Society of Medicine*, 1976, **69**, 815.

<sup>6</sup> Doran, F S A, *British Medical Journal*, 1978, **1**, 385.

## Liver injury, drugs, and popular poisons

Adverse hepatic reactions are an established hazard of drug treatment. In 1965 Haubrich listed over 200 agents that produced acute liver injury, from acetazolamide to zoxazolamine.<sup>1</sup> But self-medication may also present a hazard. The mechanisms of toxicity fall broadly into two groups.<sup>2</sup> Some drugs produce a predictable and often dose-related response, either by direct damage to the liver cells or by interfering with bilirubin metabolism. Others cause damage that varies among individuals and cannot usually be linked to dosage.

The increased prevalence of viral hepatitis after taking oral contraceptives is a recently discovered example of hepatotoxicity<sup>3</sup>; and after years of controversy halothane has now earned a definite place in the growing list of drugs causing liver disease.<sup>4</sup> When a patient is known or suspected to have liver disease a careful drug history is essential to diagnosis—the use of phenothiazines or treatment for tuberculosis, for example, may give the clue to the cause of jaundice.

Some patients, however, do not, cannot, or will not tell the whole truth. Many regard taking laxatives as such a routine that they do not volunteer the fact unless specifically questioned. Oxphenisatin<sup>5,6</sup> (now withdrawn from oral proprietary preparations), danthron,<sup>7</sup> dioctyl calcium sulfosuccinate,<sup>6,7</sup> and perhaps even liquid paraffin in large amounts<sup>8</sup> may cause liver disease. Oral contraceptives are well known to cause cholestasis, peliosis hepatis, and benign liver tumours; but many women do not consider them as drugs and do not tell the doctor they are taking them. Patients may be unaware of being exposed to industrial solvents such as trichloroethylene. This chemical may also be a drug of abuse,<sup>9</sup> which is likely to be concealed; and similarly glue sniffing can produce toxic hepatic damage, probably from toluene vapour.<sup>10</sup>

Furthermore, self-medication has become more popular recently. Patients are more aware of the possibilities for treating their own ailments, partly as a revolt against high technology in hospital medicine. And indeed doctors are even advocating self-treatment for simple diseases as a way of easing the burden on general practice. But there has always been a hard core of resistance to conventional Western medicine, and the current interest in "alternative" medicine has brought "health" foods and herbal medicines into fashion. Thus many people treat themselves for real or imagined ailments, and most of them seem to come to little harm. But not all the agents they use are benign, and some can cause serious injury and even death. Neither patient nor doctor may be aware of their constituents, let alone the possible toxicity of substances taken as medicines.

Various herbal remedies contain alkaloids such as pyrrolidizine, which may cause severe liver damage and death. The genera in which these alkaloids occur include *Senecio* (of which the English ragwort is a species), *Crotalaria*, and *Heliotropium*—all found all over the world. Pyrrolidizine alkaloids have caused liver disease in, for example, Jamaica, South Africa, Israel, Egypt, and India. The plants are ingested as a herbal infusion and also as a food (ackee). Such liver damage was first reported from Jamaica,<sup>11,12</sup> where occlusive disease of the small branches of the hepatic veins was endemic. This was linked with drinking bush tea—infusions are made of any available herbs (over 200 species are known to be used<sup>12</sup>). *Crotalaria* species are not normally used to make a beverage because of their bitterness, but they are often used for their alleged medicinal properties.<sup>13</sup> A painful enlargement of the liver (without much jaundice) results; this may be followed by hepatic failure and death, non-portal cirrhosis, or complete recovery. There is a time-lag between ingestion of these alkaloids and onset of symptoms—as long as three months in one fatal case in an Indian epidemic of *Heliotropium* toxicity.<sup>14</sup>

These poisonous plants continue to be widely used more than 20 years after the discovery of their hepatotoxicity.<sup>13</sup> Although those particular herbal medicines appear to be confined to distant countries, herbal tea (particularly the French tisane) is popular in Europe, being made from a wide variety of plants. Some of the medicinal preparations sold

over the counter in Britain may also eventually prove to have serious toxic effects; vitamin A in excess is already an established hepatic toxin. Liver injury has also resulted from eating *Vicia faba* beans and cereals contaminated with *Penicillium* and groundnuts with *Aspergillus flavus*, and from abuse of the fungi *Amanita phalloides* and *Helvella*.

The toxicity of self-administered medicaments is often difficult to determine, however, because their exact constituents are not disclosed. Manufacturers should be obliged to give a factual description of these—which would also help to dispel the mystique that all too often surrounds “fringe” medicines.

- <sup>1</sup> Haubrich, W S, in *Gastroenterology*, vol 3, ed H L Bockus. Philadelphia, Saunders, 1965.
- <sup>2</sup> Sherlock, S, *Diseases of the Liver and Biliary Systems*, 5th edn. Oxford, Blackwell, 1975.
- <sup>3</sup> Morrison, A S, Jick, H, and Ory, H W, *Lancet*, 1977, **1**, 1142.
- <sup>4</sup> Sherlock, S, *Lancet*, 1978, **2**, 364.
- <sup>5</sup> Reynolds, T B, Peters, R L, and Yamada, S, *New England Journal of Medicine*, 1971, **285**, 813.
- <sup>6</sup> McHardy, G, and Balart, L A, *Journal of the American Medical Association*, 1970, **211**, 83.
- <sup>7</sup> Tolman, K G, Hammar, S, and Sannella, J J, *Annals of Internal Medicine*, 1976, **84**, 290.
- <sup>8</sup> Blewitt, R W, et al, *Gut*, 1977, **18**, 476.
- <sup>9</sup> Baerg, R D, and Kimberg, D V, *Annals of Internal Medicine*, 1970, **73**, 713.
- <sup>10</sup> O'Brien, E T, Yeoman, W B, and Hobby, J A E, *British Medical Journal*, 1971, **2**, 29.
- <sup>11</sup> Hill, K R, et al, *West Indian Medical Journal*, 1951, **1**, 49.
- <sup>12</sup> Stuart, K L, and Bras, G, *Quarterly Journal of Medicine*, 1957, **26**, 291.
- <sup>13</sup> McLean, E K, *Pharmacological Reviews*, 1970, **22**, 429.
- <sup>14</sup> Datta, D V, et al, *Postgraduate Medical Journal*, 1978, **54**, 511.

## The therapeutic pendulum and the special care baby unit

Whenever a potent new drug becomes available its place in clinical practice tends to be established in three phases. Firstly, there is excessive enthusiasm; secondly, after the recognition of adverse effects, there is a rebound aversion; only then and finally is a balanced assessment made of its benefits and disadvantages. That a similar process may apply to things other than drugs is shown by the recent history of special care baby units (SCBUs), though in this case we hope we can avoid the second phase.

The 1960s and early 70s saw a proliferation of special care baby units in Britain, and the proportion of babies admitted to them increased from 6.2% of all live births in 1964 to 18.4% in 1975.<sup>1</sup> In 1964 the neonatal mortality rate in England and Wales for infants weighing 2500 g or less was 127.5 per 1000 and for infants weighing over 2500 g it was 6.0 per 1000 live births.<sup>2</sup> In 1974 the corresponding figures were 98.5 and 5.0 per 1000 live births. Since less than 7% of all babies weigh 2500 g or less at birth<sup>2</sup> most infants now admitted to SCBUs are clearly not of low birth weight. In Exeter between 1967 and 1971 9.6% of liveborn babies weighing over 2500 g at birth were admitted to the SCBU, and Brimblecombe and his colleagues<sup>3</sup> have argued that in retrospect many of these admissions were unnecessary. They looked at the causes of handicap detected at 5 years of age and claimed that in babies weighing over 2000 g at birth special care facilities could do little to reduce the incidence of handicap.<sup>3</sup> In Cambridge the proportion of babies of birth weight greater than 2500 g admitted to the SCBU was

reduced from 24% to 5% by altering admissions policies in 1975.<sup>1 4</sup>

In this issue (page 583), Vaizey and Oppé report their findings from a survey of all admissions to 17 SCBUs in the North-west Thames region in the first three months of 1975. Seventy per cent of the babies admitted to the SCBUs weighed over 2.5 kg at birth, and nearly 40% were admitted for observation only, needed no special investigation or treatment, and left the unit within three days. A separate study carried out at the same time in London<sup>5</sup> showed that because of inadequate facilities many of the SCBUs in question could not provide high-quality care for very sick babies.

Very sick newborn babies and small premature babies need special observation by specialist nurses, and undoubtedly these babies should be cared for in an SCBU. There is ample evidence that the intensive care (as distinct from special care) of very-low-birthweight babies is rewarding in terms of both mortality and morbidity,<sup>6-8</sup> but such care can reasonably be provided only in the larger maternity units with adequate staff and equipment.

The evidence now points to an overuse of SCBUs for larger babies, and a recent publication in the series “Clinics in Developmental Medicine”<sup>9</sup> has reminded us of the dangers that may arise from this unnecessary separation of so many mothers and babies. Among the dubious reasons for admission to the special care unit are caesarean section, forceps delivery, multiple deliveries, mild asphyxia, smallness for dates, mild or moderate jaundice, and minor feeding problems.

If minor problems in the newborn are to be managed on the postnatal wards then some of the medical and nursing skill which has been concentrated in the SCBUs will have to be directed back to the wards. Medical staff will need to be prepared to spend more time in the postnatal wards, and in many places present levels of staffing may make this difficult. At the same time nursing staff on postnatal wards will need to accept more responsibility for the care of the newborn.

One suggestion<sup>1</sup> that has emerged from the current debate is that the number of special care cots should be reduced from the present nationwide level of 6.5 per 1000 deliveries to 3 or 4 per 1000 deliveries. If this is done, many units will be left with space to spare, and in smaller units with 2000 or fewer deliveries per year there may be difficulty in keeping trained nursing staff unless they are given extra duties. The extra space might be used to provide accommodation for mothers near to the babies—for there is a strong case for establishing intermediate or transitional care areas outside the SCBUs, where mothers and babies can remain together but nursing staff cover is adequate to deal with minor problems.

Each unit will need to formulate its own policy according to local circumstances, and in some the standard of baby care which can be provided on the postnatal ward may be such that it may be safer to transfer a mildly sick baby to the SCBU. What should not be forgotten is that the most reliable observer of the baby may often be the mother—if she is allowed to be aware of the problem. The evidence pointing to the importance of early contact between mother and baby cannot be ignored,<sup>10</sup> and a decision to transfer a baby to the SCBU should imply that the doctor considers that the danger to the baby of staying with his mother outweighs the desirability of close early contact.

The final sentence of the monograph by Brimblecombe, Richards, and Robertson<sup>1</sup> is worth quoting in full: “It must never be forgotten that, ultimately, the care of even very sick newborns is the responsibility of the parents and that