

to suggest you are right. By using atropine you discriminate between a wanted and an unwanted effect of digoxin.

PROFESSOR MACGREGOR: The problem of atrial fibrillation complicating myocardial infarction is not at all unusual, and although it is reasonable to leave the rhythm untreated for a few hours (provided the patient is tolerating it), digoxin often has to be given. One way to reduce slightly the dangers of digoxin is to give ouabaine, knowing that that drug is excreted

unchanged in a very few hours, whereas digoxin has a half life in the body of about one-and-a-half days. However, it is a long time since a patient like this had a cardiac arrest in this ward, and I do think that the advantages of digoxin therapy must outweigh the risks.

In summary, we have seen today what a diverse and difficult problem atrial fibrillation can be. To treat it satisfactorily one must have a clear concept of its aetiology and a basic understanding of the mode of action of digoxin.

Vocational Training in General Practice

VII—Manchester

FROM A SPECIAL CORRESPONDENT

Manchester University Medical School opened a Department of General Practice in 1969, but since 1954 all medical students have spent at least a fortnight at the Darbshire House Health Centre. The pioneering experience acquired in introducing medical students to general practice proved a valuable foundation for the vocational training scheme, which was launched in Manchester in 1969. Relatively few family doctors in the Manchester area had had trainees under the old scheme, a result no doubt of large lists and heavy work load, and the Director of the Department initially turned to those principals who had been training undergraduates and invited them to take part in the postgraduate scheme. The response was good and with the original core of trainers now expanded to include family doctors in the outer ring of Manchester the scheme is well under way, though it is not without its headaches. Ambitiously it aimed at admitting 20 trainees a year to two centres in the middle and south of the region, with their course based on Manchester, and 10 in the north with Lancaster as the base. Unfortunately too few candidates applied for the posts available and in September this year only 16 vacancies are being offered in the Manchester area. So far 10 of these have been filled. Nevertheless, those that have joined the course, as in the other schemes, have generally been well motivated to general practice. A few have dropped out and one or two were seduced into a specialty during the course.

Local Problems

One of Manchester's biggest problems, the Director told me, is the industrial depression affecting many parts of the South-west Lancashire conurbation, and the state of many of the hospitals reflects this situation. The University and the medical school were lively enough, he said, but elsewhere poor buildings, insufficient and heavily overworked staff, many from overseas, were commonplace. Furthermore, the medicosocial problems, associated with industrial depression, compounded the difficulties. So despite the number of hospitals in the Manchester area it had been difficult to arrange suitable hospital posts for the trainees in the scheme. The service load was too heavy to allow time for adequate teaching, and the tendency had been to offer posts where the hospital saw an advantage in having a British-trained graduate or where it regarded the scheme as a heaven-sent solution to filling unpopular posts. This type of post, needless to say, did not always offer the trainee the right experience, and on occasion had led to a trainee withdrawing from the scheme or asking for a transfer to another hospital.

The undergraduate teaching hospitals, the Director continued, were loth to release posts to the scheme because these were regarded primarily for training future specialists, while the Director himself was opposed to supernumary appointments as he thought that these offered the trainee too little experience. On the other hand, he admitted that a young doctor in a regular hospital post did not always find it easy to take time off. This caused difficulties because apart from attendance at the day-release course on general practice run in Manchester, during the hospital period the trainees were encouraged to meet their future practice trainer regularly. Nevertheless, despite all these obstacles sufficient hospital posts have been negotiated, owing mainly, I suspect, to the persuasive persistence of one man.

The Curriculum

The Manchester trainees spend two years in hospital posts—which are fitted to the trainee's needs as far as practicable—and one year in general practice. Those trainees attending the northern hospital groups—for example, Barrow, Preston, and Lancaster—also start with two years in hospital, but the first four weeks are spent in an introductory, residential course at Lancaster. The final year is spent in a practice in the area. The Department of General Practice organizes an extended sandwich course, comprising half a day per week for three ten-week terms. As at Ipswich (19 June, p. 704) and Wessex (3 July, p. 41) this course was valued by the trainees. The opportunity of meeting their fellows and the wider perspective of medicine provided by the course were especially welcome. Trainees also have the opportunity to see various types of practice, some practice swapping is arranged, and they visit local health departments, occupational health schemes, and the like.

Talking to one trainee, who had graduated from a London medical school where there was no student contact with family doctoring, he told me that the advertisement for the Manchester scheme had alerted him to the potential of research in general practice. He welcomed the period of stability which the course offered, though it was a pity that the trainees' accommodation could not be arranged for the whole three years; he suggested that "trainee flats" might be built into health centres. The amount of formal teaching he had received during his period in hospital had been minimal, and he regretted that the opportunities for meeting fellow trainees had been negligible. The financial differential between young principals and trainees was well recognized as a problem by everyone I met, though at this early stage the enthusiasm of the trainees seemed to outweigh this.

Role of Academic Department

I asked the Director what influence he thought his department's experience of undergraduate training had had on the vocational training scheme. Apart from the practical experience for the practice principals and the organizers, he said that most important of all the scheme had persuaded students of the potential of modern general practice. In the coming year several of the graduate entrants had been attached as students to the Darbshire House Health Centre—the original practice base for the undergraduate scheme, and two had done preregistration jobs in one of the hospitals involved in vocational training. He hoped that this was a portent for the future though he observed wryly that "it is uncharted waters we are sailing in."

Together with his colleagues in the department the Director is trying to assess the effectiveness of vocational training courses. A six-year research project, supported with £60,000 from the Department of Health, covers Ipswich, Newcastle, Belfast, Sussex, Norwich, and Edinburgh, as well as Manchester. Their main objective is to discover the optimum type of course—no easy task—and almost equally important to construct some sort of rational criteria for the selection of trainers and trainees. So far the number and scale of vocational training schemes have meant that suitable trainers can be selected with reasonable

sureness by the organizers themselves on the basis of personal knowledge—subject of course, to approval by local medical committees—while the trainees, being largely self-selected, are well motivated to general practice though this does not mean that they are always suitable. The relatively small number of candidates has also minimized problems of selection. Quite detailed progress reports are now made on the trainees—with their agreement—and they in turn feed back their views on the course.

The assessment of trainers and training practices is a novelty in general practice, and family doctors will watch the experiment with interest, tinged, perhaps, with scepticism. Nevertheless, this is an important development and one which the Royal College of General Practitioners is also exploring. Independent professional men may react instinctively against the idea of outside "checks," but if vocational training is to expand quickly it is vital that it should do so in the right direction. Manchester has pioneered five-day residential courses for general-practitioner teachers. Starting this autumn the department will be offering a four-course cycle of two five-day courses a year covering much wider aspects of teaching. The department is to be congratulated on its foresight in initiating research into general practice teaching. The results may have lessons for other branches of medicine.

Any Questions?

We publish below a selection of questions and answers of general interest

Toxicity of Tricyclic Drugs

Are there any toxic effects from long-term treatment with the tricyclic group of drugs, such as Tofranil (imipramine hydrochloride) or Tryptizol (amitriptyline hydrochloride), for a depressive illness?

The side effects of these drugs in the short term are well known and include anticholinergic effects, such as dry mouth, constipation, disturbance of accommodation, etc. These tend to arise in the first few days, followed over the next two to four weeks of treatment by tachycardia, postural hypotension, increased sweating, hesitancy of micturition, and sexual disturbances. Hypersensitivity reactions are frequently delayed and may include paraesthesia, peripheral neuropathies, and rarely agranulocytosis. A cholestatic jaundice is an occasional toxic effect appearing after about three months treatment. Iprindole (Prondol) may cause jaundice within the first month. Though certain patients may need a maintenance dose of these drugs for many years, I do not know of any toxic effects directly due to continuing treatment for a long period.

Toxic Hazard

What toxic hazards are there from the manufacture of a compound of ethyl chloride and ethylene sulphide (C₂H₅Cl - C₂H₄S), what precautions should be taken, and what is the antidote for poisoning?

Ethyl chloride and ethylene sulphide combine to form an ionic salt (Hofman elimination)¹ which in the vapour phase could exist as 2-chloro ethyl ethyl sulphide. This has penetrating odour; is highly irritant to the eyes, skin, and respiratory tract; and is similar in chemical constitution to di-chloro di-ethyl sulphide (mustard gas) but having a less severe vesicant action.²

Despite a comprehensive search of published literature I have found no other references to the toxicity of this material or to the treatment of injuries arising from handling it. It may be assumed, however, that the treatments applied in the case of mustard gas are also applicable to 2-chloro ethyl ethyl sulphide.

A suggested treatment for eye injuries³ is to give immediate irrigation with a 0.5 to 1% chlorococaine solution of dichloramine-T followed by frequent irrigation with saturated boric acid solution. In the case of skin contact the skin should be washed with a solvent such as kerosene or cod liver oil/olive oil within two minutes of contact to prevent lesions. The well-known principles advocated for hazardous materials apply in the manufacture of this material—e.g., enclosure, personal protection, etc.

¹ Fieser, L. F., and Fieser, M. A. P., *Advanced Organic Chemistry*. New York, Reinhold, 1961.

² *Journal of Pharmacology and Experimental Therapeutics*, 1918, 12, 286.

³ Warthin, A. S., Weller, C. V., and Herrmann, G. R., *Journal of Laboratory and Clinical Medicine*, 1918, 4, 785.

Synthetic Blanket Materials

Is there any evidence that the inhalation of small fibres from synthetic blanket materials (e.g. Acrilan) is a cause of persistent cough?

There is no specific association between the inhalation of small fibres from synthetic blanket materials and persistent coughing. The inhalation of any small fibres in sufficient quantity may irritate the throat. If an allergic association is contemplated, then perhaps the mites that are commonly found in such blankets may be important.