

In recent years the use of plastic, particularly polyvinyl chloride (P.V.C.) for endotracheal tubes as well as for tracheostomy tubes, has been increasing. A report² from the United States suggests that P.V.C. may not be as innocent as is generally assumed, and it warns the medical profession that damage to tissues may follow prolonged contact with the mucosa. The report describes experiments in which pieces of endotracheal tubes made of P.V.C. were placed in tissue culture media and in rabbit muscles. The toxic substance appears mainly to be an organic tin compound, but other plasticizers may also be responsible. This report is important, for it draws the attention of the profession to the possible toxic nature of substances in the plastics now coming into general use in medical practice. Clinical users, and perhaps the British Standards Institution, might ask more questions than they have in the past about the likely toxic nature of materials used for tubes in the respiratory tract. For example, an American Army specification for endotracheal tubes already requires P.V.C. to be non-toxic and free from tissue reaction when implanted in rabbit muscles. It seems possible that ulceration and subsequent scarring of the trachea, as well perhaps as the occurrence of granulomata, may be the result not so much of pressure of tube against the trachea as of toxic substances in the tube material.

Another consideration is whether toxic substances in the tube material are formed and released during sterilization of the tubes by one method or another. It seems that gamma-irradiation may produce hydrochloric acid,³ while ethylene oxide often produces ethylene chlorhydrin, a very toxic substance. The latter was found after ethylene oxide sterilization of rubber, nylon, and polyethylene. It is recommended that plastics sterilized by ethylene oxide should be stored for at least one week before being used for procedures entailing prolonged contact with body tissues. In any case, it is safest to discard after one use only any P.V.C. that has been sterilized by gamma-irradiation and not to attempt to re-sterilize it with ethylene oxide.

There is no doubt that more attention should be paid to possible toxic substances in the material of endotracheal tubes, and particularly in relation to the method of sterilization. The immediate objective should be a clearer definition of what is to be considered non-toxic, and to aim at disposable endotracheal and tracheostomy tubes in order to remove the risks of re-sterilization.

General-practitioner Obstetric Units

A recent report¹ on obstetrics in general practice from the Royal College of General Practitioners brings welcome attention to the whole scene of obstetric practice and education. Without doubt general practitioners have played a major part in the development of this branch of medicine in the past, and it is now only too clear that they will have an equally important role in the planning and operating of obstetric services in the future.

The practice of obstetrics in Britain is moving rapidly into an institutional era. The report correctly recognizes that a doctor's standard of obstetrics is inevitably improved when he is practising in a general-practitioner maternity unit. This

doctor is far better able to cope with an unexpected complication in a properly equipped unit provided with oxygen, suckers, transfusion sets, and anaesthetic apparatus than could ever be the case with the emergency improvisations which are always necessary when an obstetric crisis occurs in a patient's home. Nowadays women are equally entitled to the safer conditions for delivery which the general-practitioner maternity units can offer—and so it follows that every town, suburb, and large village should have its own general-practitioner unit, a small maternity home provided with a well-equipped delivery room and several bedrooms, sufficient to allow the patient to stay overnight prior to returning to her home within 24 hours of confinement. These units need not be expensive and could easily be converted from any four- or five-bedroomed house. Where geographically possible it would be sensible to place the general-practitioner unit adjacent to the specialist unit, but clearly this will be done only in a minority of cases, as most specialist units will be found in the large district hospitals that are to form the hospital service of the future. The specialist will provide the district obstetric specialist services, including a flying squad for the serious complications.

Attention is drawn in the report to the high proportion of normal obstetric care unnecessarily conducted in specialist departments today—an uneconomical use of expensively staffed and equipped units. Purists can argue that any apparently normal case is always a "potential" complication. This argument can be answered by drawing attention to the need for well-trained general-practitioner obstetricians, which can be met only by high standards of primary and continuing education. The Council of the R.C.G.P. emphasizes that the basic vocational training of a general-practitioner obstetrician must take place after graduation, and indicates that only those with an adequate residential training should be admitted to the obstetric list. Continuing education for the established doctor out in active general practice is equally important, and here residential courses can be invaluable: ideally every regional hospital board should establish a postgraduate obstetric teaching department centred in a busy specialist department in one of its district hospitals where there is an abundance of abnormal obstetrics. It is now B.M.A. policy that such a postgraduate institute should be established in each region. Furthermore, no one would disagree that such a busy teaching and clinical department is the correct place to train future consultants; senior registrars can learn not only the technique and practice of obstetrics, but also understand the role of the general-practitioner obstetrician and the value of working in close liaison and harmony with him.

Life as a Haemophiliac

There are about 3,000 haemophiliacs in Britain. Two surveys have recently been published which will help doctors to understand some of the problems these patients have to face and their response to them. I. G. Bronks and E. Blackburn¹ found no gross social or psychiatric abnormalities in a group of 135 haemophiliacs who replied to a postal questionnaire. Only three had received treatment for illnesses (depression and anxiety) which might possibly have been a neurotic reaction to infirmity. The occupational history of those with only mild or moderate affliction was good, and 65% with

¹ *Obstetrics in General Practice*, the report of a working party, the Royal College of General Practitioners, 1968, price 7s. 6d.