

assertion that sunlight is important in causing cataract, sunlight is likely to be one of the many causative factors.¹¹ But at a time when there is ample evidence to suggest thinning of the protective ozone layer in the outer atmosphere²⁴ it makes sense to advise patients to minimise their exposure to ultraviolet radiation to protect not only the lens but also the retina and the skin.²⁵

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Managing biliary atresia

Referral before 6 weeks is vital

Before Kasai and Suzuki described portoenterostomy 30 years ago the mortality in biliary atresia was almost 100%.¹ Most children died in infancy. Now high survival rates may be achieved—but only if cholestasis is diagnosed and the affected child referred early.

Biliary atresia is not a congenital malformation but an acquired progressive disease of the biliary system. Its cause is unknown. Most infants develop cholestasis shortly after birth, but it may start weeks later. Histological studies of the biliary system excised at operation have illustrated the acquired inflammatory process.^{2,3}

All babies developing cholestasis need hospital investigation so that the nature of the jaundice can be defined; genetic, metabolic, and infective causes of intrahepatic cholestasis can be identified; and babies with extrahepatic biliary obstruction who need an operation can be recognised.⁴ The severity of cholestasis is assessed by radiopharmaceutical tests,⁵ which help to identify infants with extrahepatic obstruction. Liver biopsy is also indicated. Although the result of no single investigation is completely reliable, the site of cholestasis is identified in over 95% of cases. Investigations will diagnose liver disease that responds to specific treatment and prevent unnecessary and possibly harmful operations on infants with intrahepatic cholestasis.

Most previously untreatable infants with biliary atresia now obtain satisfactory biliary drainage after hepatic portoenterostomy. Some patients have lived beyond the age of 20 without features of liver disease, and the treatment continues to improve—partly because of improvements in the skill of surgeons^{6,7} but also because of modifications of the original procedure. Some modifications—for example, using microsurgical techniques⁸ and operating again if bile drainage remains impaired^{9,10}—increase the prospect of satisfactory bile drainage postoperatively. Other modifications reduce the risk of ascending cholangitis,¹¹⁻¹³ a common complication that may cause further deterioration in liver function.¹⁴

There is no agreement on which is the best operation.

Although more complicated procedures and repeat operations may increase the bile flow, they also reduce the prospect of successful liver transplantation. Biliary atresia with advanced liver disease is the commonest indication for liver transplantation in children,¹⁵ and previous biliary operations increase the risk of complications such as bleeding during hepatectomy. The poor postoperative results and the unavailability of donor livers mean that liver transplantation will not replace portoenterostomy as the initial operation for biliary atresia.¹⁶ Japan, where so many developments have originated, does not have a programme of liver transplantation.

Bile drainage and prognosis seem to be improved if patients who have had portoenterostomy are given total parenteral nutrition,¹⁷ corticosteroids,¹⁸ antibiotics to reduce the risk of early cholangitis,¹⁹ and possibly hormones and other therapeutic agents to encourage bile flow.^{20,21} The age at operation is crucial in determining the outcome of portoenterostomy.^{6,7,9,16,19,22} Infants operated on before 2 months have a 90% chance of eventual satisfactory bile drainage¹⁷; beyond this age the success rate rapidly falls and is nil by 5 months.¹⁷ Some infants with cholestasis are referred to specialist centres far too late. Two weeks are needed for the preoperative investigations, and infants must therefore be referred before the age of 6 weeks. Jaundiced infants are likely to have cholestasis if jaundice is still present at 6 weeks old, if the urine never becomes colourless, or if the stools lack the normal yellow or green pigment.²² Such infants must be referred to specialist centres.

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Continuing medical education in general practice

We know who and why but not how good it is

Doctors need to keep up to date. In the 1950s and 1960s an acceptance of the need for continuing medical education in general practice led to the development of postgraduate centres to which all doctors had access. Educational meetings at these centres were funded by the National Health Service under section 63.¹

Since the financial incentive to attend these meetings has been removed several studies have looked at what general practitioners think of postgraduate education² and whether they participate.³ A recent study from the west midlands, published by the Royal College of General Practitioners, explored in detail the attitudes and behaviour of general practitioners regarding postgraduate education.⁴ A detailed questionnaire was sent to a random sample of general practitioners to assess the difference between attenders and non-attenders at activities under section 63.

The findings supported the work of earlier investigators: nearly three quarters of general practitioners attended one or more lunchtime meetings under section 63 and more than half the non-attenders did not attend any other educational activities. The investigators also examined general practitioners' reading habits. Most scanned newspapers and journals sent to the practices—89% read the free weeklies, 73% the *BMJ*, 27% the *Journal of the Royal College of General Practitioners*, and 5% the *Lancet*. The influence of the pharmaceutical industry was important, the industry sponsoring 82% of the non-section 63 meetings; three out of four general practitioners said that drug companies sponsored all the practice based meetings they had attended.

Practices differed in their commitment to continuing medical education; in some, provisions for study leave were inscribed in practice agreements whereas others actively discouraged leave. Of the general practitioners interviewed, half experienced persistent isolation in their work, and there were strong indications of insecurity and uncertainty. Those who attended postgraduate centres were more mature and resilient to the demands and pressures of practice than non-attenders, who seemed less organised and more conscientious. Non-attenders seemed less extrovert and more isolated—much less “clubbable” than attenders (which conflicts with the commonly held view that doctors who do not attend postgraduate centres spend their time on the golf course).

Of the various types of postgraduate education, the formal lecture presentation was preferred. Many general practitioners had reservations about the quality of the meetings they

attended: 40% in one study were critical of the standard of presentation.⁵ ⁶ In contrast, many who attended practice based meetings noted the high calibre of material available on video tapes.

None of these studies have examined the outcome of continuing medical education. In view of the costs to those attending and organising these activities this is surely a topic that requires further research. It has been suggested that in the United States the continuing medical education “industry” does not sufficiently improve performance to justify the current expenditures of effort and money. Sanazaro concluded that continuing medical education is but one link in the “quality assurance chain.”⁷ There is clear evidence that having the most up to date knowledge (K) and attitudes (A) does not necessarily mean translation into practice (P), the so called “KAP” gap.⁸

General practitioners and hospital staff should, by peer audit, examine their performance and identify the subjects in which further education is required.⁹⁻¹¹ In consultation with their clinical tutor (which, according to the report, every general practitioner should have) doctors can plan the right educational programme, whether this is clinical attachment to a postgraduate centre, distance learning, or practice based education.

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