

basic training, but only those who get high marks are offered the chance to specialize. Those with lower marks are left to train for general practice, along with any that have made it their first choice. This training is called 'residanat', while specialist training is called 'internat', a prestigious term from the past. Thus general practice is a devalued branch of medicine which already suffers because 30% of French patients go direct to specialists and by-pass their general practitioner. There is indeed a two-year training for intending general practitioners, but it is not available in the more prestigious hospitals, while the period of six months in general practice is inadequately organized, often curtailed and not much sought after, as excessive numbers again make competition for practices a daunting problem.

West Germany is another country with intractable difficulties with general practice training. A two-year compulsory training period is seen as inferior to the four-year voluntary training which has been available, mostly in hospital posts, for the last 15 years. The government is at present unwilling to finance both schemes and seems likely to use the directive as an excuse for paying only for the two-year programme. Thus in Germany the directive appears to be a step backwards. As in Italy and France, far too many doctors have had a basic training and 45 000 are said to be unemployed.

It would be tedious to describe the situation of each of the 12 countries. Suffice to say that Portugal and Spain, each starting from a lower baseline, have ambitious plans, which are supported by large groups of enthusiastic young doctors. They have already set up experimental training courses within reorganized health services. But they will need time and better governmental support than they have at present.

Meeting again with the European Union after a lapse of three

years, I was struck by the magnitude of the problems that hold back the process of general practitioner training in most of the 12 countries. One has to go to Europe to realize the advantage we have enjoyed here through continuing efforts to relate the number of entrants to medical schools to the country's need for doctors; the contrast with Italy, France and West Germany, with their burden of unemployed doctors, is striking. One has to go to Europe to realize the importance to general practitioners of the tradition by which patients consult us in the first instance. This tradition is relatively feeble in most EEC countries, with an inevitable reduction in the value attached to general practice and in the pressure to create a proper training for this career. One has to go to France or West Germany to realize how fortunate we have been in the willingness of our universities to accept the new discipline of general practice at a relatively early stage. The rigid conventions and protectionism of French universities make a particularly sharp contrast.

Despite all the problems, the consensus view at the conference was that the specific teaching of general practitioners should last for three years.

One lesson the UK can learn from this meeting is that we cannot be complacent. Other countries, notably Denmark and the Netherlands, are now perhaps taking the lead in vocational training for general practice. We are in danger of becoming fossilized in our arrangements for training young doctors and of emphasizing the achievement of minimum standards rather than searching for excellence. We need to create and evaluate experimental approaches to education if progress is to be made.

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HIV infection in children

THE acquired immune deficiency syndrome (AIDS) was first recognized in children in 1982, and at the end of 1987, 251 cases where the patient was less than 15 years old had been reported in Europe. Although the number of paediatric AIDS cases in the United Kingdom is small, with only 20 confirmed cases reported to the British Paediatric Surveillance Unit, the actual number of children infected with the human immunodeficiency virus (HIV) is as yet unknown. With the new classification of paediatric HIV infection,¹ children with less severe manifestations of the disease should also be recognized, but infected children who remain asymptomatic will not come to medical attention.

Since 1985 the risk of transmission via blood and blood products has been reduced appreciably, with the voluntary exclusion of infected blood donors and treatment of blood products. The majority of children acquire HIV infection by vertical transmission from an infected mother. The transmission can be transplacental, intrapartum or postpartum.

Clinical spectrum

The spectrum of HIV infection in children is extensive, ranging from asymptomatic infection to end stage disease manifesting as AIDS. Studies of perinatally acquired disease² (Mok JYQ, *et al.* Submitted for publication) show that the initial presentation of HIV infection in children includes non-specific signs and symptoms — failure to thrive, recurrent respiratory infections,

chronic diarrhoea, unexplained fever, generalized lymphadenopathy and hepatosplenomegaly. It is likely, therefore, that most of these children will present first to their general practitioner, who must be alert to a history of risk activities in the parents so that an appropriate diagnosis can be considered.

As the disease progresses, evidence of central nervous system involvement (developmental delay, microcephaly, progressive motor deficits) or chronic lung disease (lymphoid interstitial pneumonitis) become apparent. Opportunistic infections with bacteria, viruses and other atypical organisms will also be seen. Less common manifestations include nephropathy, cardiopathy and embryopathy.

Difficulties with diagnosis

In adults, laboratory evidence for HIV infection (usually an ELISA screening test confirmed by Western blot) is specific as well as sensitive. The transplacental transfer of HIV antibodies from an infected mother to her infant creates problems in interpreting a positive HIV antibody test in an infant. Clearance of maternal antibodies occurs when the infant is six to 18 months old, with a median age of 12 months. Therefore, infants under 18 months old who are antibody positive and have a history of perinatal exposure to HIV are classified as having 'indeterminate' infection, unless there is other laboratory or clinical evidence to substantiate HIV infection.

HIV infection in a child should be diagnosed on clinical grounds,¹ by isolation of the virus from blood or other tissues, a positive test for p24 antigen or a positive antibody test in a child aged over two years. In younger children where maternal antibodies persist, abnormal tests of immune function, for example, hypergammaglobulinaemia, T4 lymphopaenia or a T4/T8 ratio of less than 1.5, suggest HIV infection. A cautionary note is that a small number of children have been reported who are HIV antibody negative, but who have positive results on antigen testing or virus culture. There is an urgent need for more laboratory tests, such as DNA probes, to detect infection early in life, so that clinicians can be confident about diagnosing or dismissing HIV infection in young children.

HIV testing in children

In view of the difficulties outlined above, the results of HIV tests from young children require some expertise for interpretation. There are also problems of consent, as a positive HIV antibody test in a young child implies maternal infection as well. Therefore, the social and legal repercussions for the mother and family must always be considered.

Where the child is seen with clinical signs and symptoms, many doctors argue that, where necessary, blood will be tested for HIV antibodies as part of the diagnostic process. Whether or not consent is sought appears to vary, with some doctors in favour of not discussing HIV testing to save the family unnecessary stress in the event of a negative result. Perhaps proponents of this view should consider the turmoil imposed when a positive result is lightly imparted to the parents. Apart from the need for a diagnosis in clinical practice, there is no other reason for determining the HIV status of a child. Evidence against casual spread of the virus is mounting and day-to-day activities in families, at nurseries or schools carry no risk of virus transmission, arguing against the need to test children placed in care or educational facilities.

Confidentiality

Those involved in the care and education of children at risk of HIV infection should respect the child's right to privacy. This includes minimizing the number of people who are aware of the child's condition to those required to assure proper care of the child.

Staff in child care and educational establishments have been issued with guidelines on infection control^{3,4} which emphasize stringent hygiene practices and the negligible risk of HIV transmission in looking after children. It is hoped that if every child care centre and school were well versed in these guidelines, staff would not insist on knowing of every child who is at risk of HIV infection.

Children at risk of HIV infection vary from those with documented risk, for example, haemophiliacs who have received infected blood products, to those suspected of risk because of maternal drug abuse. It is therefore unjustified as well as impractical to disclose the names of all such children. Where the child has clinical evidence of active HIV disease, the parents should be encouraged to share that information with one member of staff who can then alert the parents to potentially dangerous infections which are prevalent. The stigma of HIV infection will discourage many parents from disclosing any information to child care or educational staff, in which case their rights to confidentiality must be respected. Siblings of infected children who show no signs of infection must not be treated any differently from other children.

Immunization

Increasing awareness of paediatric HIV infection as well as the risk factors involved have raised concerns about the safety of immunizations in children who may be infected. No adverse reactions to inactivated vaccines have been reported, so diphtheria, tetanus and pertussis vaccinations should not be withheld. Limited experience with live polio, measles, mumps and rubella vaccines in immune-compromised children has not revealed severe reactions.

Conflicting advice exists on the use of live vaccines in children with HIV infection. In developing countries where the morbidity and mortality of natural infection outweigh the theoretical arguments against administration of live vaccines, the World Health Organization has recommended the use of live vaccines to individuals infected with HIV.⁵ The importance of early immunization is stressed, so that vaccine response can be optimized before the onset of HIV induced immunosuppression.

In the UK and USA,⁶ it is recommended that inactivated polio vaccine be given, and measles vaccine withheld from HIV infected children. Bacille Calmette-Guérin (BCG) is also withheld because of the risk of local reactions and disseminated disease in immune-compromised individuals.

It is important that children with asymptomatic HIV disease be given normal childhood immunizations. Where children have been immunized with live polio or measles vaccines prior to a diagnosis of AIDS, no adverse side effects were noted.⁶ Furthermore, the number of asymptomatic infected children is unknown, and it is probable that many of these children have already received routine childhood immunizations. There is no justification for withholding routine immunization from a child who might fall into a risk group, or from the sibling of a child known to be HIV infected.

The need for an interdisciplinary approach

At present, no cure for AIDS exists although various therapies aim at reducing recurrent infections and halting the progression of the virus. Empirical use of intravenous infusions of immunoglobulin on a regular basis has been found to result in improved clinical well-being of HIV infected children with recurrent infections and also in a significant fall in hospitalization rates.⁷

Paediatric HIV infection carries a significant morbidity as well as a high mortality. Children may live for many years following a diagnosis of AIDS, and not all this time will be spent in hospital. Families are coping with an illness in a child with an uncertain outcome in terms of severity and duration. The model for chronic conditions of childhood usually involves many disciplines, and paediatric HIV disease is no exception. One important difference is that the mother may be infected, and could manifest various stages of the disease at the same time as her child is ill. If she is unable to look after the child alternative care may have to be arranged, involving foster parents, hospital care or community based accommodation where the needs of mother and child can be catered for.

Acute episodes of infection, diarrhoea or bleeding will require hospitalization. Good liaison is necessary between hospital and general practice staff, so that a planned programme for discharge can be carried out. This could range from oxygen therapy and parenteral nutrition at home, to the provision of special educational services for neurologically-impaired children.

Many of the families with HIV infected children come from areas of multiple deprivation, where issues of drug abuse, unemployment and imprisonment in the parents have also to

be addressed. Although these are not strictly medical problems, the general practitioner may be the first person approached by the family and he or she must be able to identify sources of support for the family. Care for children with HIV infection must therefore be coordinated and comprehensive, and must consider the needs of the entire family.

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References

- Centers for Disease Control. Classification system for HIV infection in children under 13 years of age. *MMWR* 1987; 36: 225-236.
- Mok JQ, Giaquinto C, DeRossi A, *et al.* Infants born to mothers seropositive for human immunodeficiency virus. *Lancet* 1987; 1: 1164-1168.
- Department of Education and Science and Welsh Office. *Children at school and problems related to AIDS*. London: HMSO, 1986.
- Department of Health and Social Security. Information and guidance on AIDS for local authority staff. *Local Authority Social Service Letter* 1986, no. 8.
- World Health Organization. *Special programme on AIDS and expanded programme on immunisation*. SPA/INF/87.11.
- Advisory Committee on Immunization Practices. Immunisation of children infected with human T-lymphotropic virus type III/LAV. *MMWR* 1986; 35: 595-605.
- Williams PE, Yap PL, Mok JQ, *et al.* Treatment of HIV antibody positive infants with intravenous gammaglobulin. *Communicable Diseases Scotland Weekly Report* 1987; 33: 7-9.

Assessment in general practice

GENERAL practice was the first major branch of clinical medicine to apply theory and principles to the organization of postgraduate medical education and a professional approach to education.

In the 1960s and 1970s general practice was greatly influenced by educationalists and many of the major texts of that era bear the stamp of educational theory. The educational paradigm was simplified by Pereira Gray¹ in 1977 in what he called the 'training triangle', which consisted of three points: aims, methods and assessment. He showed that assessment was not an optional extra but, as reported by the Merrison Committee,² 'an integral part of the educational process'.

As postgraduate medical education in general practice evolved it fell neatly into two parts — vocational training for the early postgraduate years and continuing medical education for those established in their career posts.

Aims

In the 1970s the main emphasis in education was on objectives. Most of the royal colleges, and in particular the Australian, Canadian and British colleges, produced lists of targets for medical education in one form or other. In the UK this phase was most clearly seen in *The future general practitioner*³ and *Occasional paper 6*⁴ which brought together educational objectives for child care, geriatrics and psychiatry for general practitioner trainees.

Methods

In the 1980s the emphasis has switched to the various methods of organizing education for general practice. The small group has come into its own, the place of the lecture has been radically reviewed, the literature has expanded rapidly and the technology of educational method has advanced from the early use of audiotapes⁵ to an increasing use of video recordings.

The latest addition to the educational method has been the innovation of distance learning through the Scottish continuing learning in practice project (CLIPP) initiative, and the Centre for Medical Education at Dundee is now in touch with about 10 000 general practitioners. The Royal College of General Practitioners has been at the heart of all these developments in method and has contributed notably to many of them.

Assessment

The third point of the educational triangle, assessment, has so

far commanded less attention than aims and methods. However, in many ways it is the hardest to tackle.

The College first tackled assessment in 1968 when, through its new examination, it tested the body of knowledge thought to be suitable for entry to membership of the College. Since then, the examination, which began with a mere handful of candidates, has developed steadily, in some years attracting as many as 2000 candidates.

Meanwhile, a second important method of assessment emerged from the Department of General Practice at the University of Manchester, under the leadership of Professor Pat Byrne.⁶ This was a system of rating scales which, even a decade later, has no serious rival; certainly there is no system that is used more widely across the British Isles. Nevertheless, the early Manchester rating scales were felt to be in need of improvement and for some years a broadly based working party has been revising and refining them in order to make them a more precise tool for trainers in general practice. The report of this work, *Rating scales for vocational training in general practice 1988, Occasional paper 40*, which again comes from Manchester, includes 23 scales on 10-point ratings with a large number of more detailed subsidiary scales which will enable trainers and course organizers to make more precise judgements about the competence of trainees and their progress during training. The areas of competence range from factual knowledge to various skills, including both consulting and clinical skills. The rating scales provide a new level of sophistication in assessment and their pilot use has proved satisfactory.

There is no conflict between the use of rating scales and the MRCGP examination. The rating scales are a form of continuing assessment which ideally should be fed back to the learner to aid progress during the course, whereas the MRCGP examination represents the end-point assessment of vocational training and is quite rightly carried out by an external body on as objective a basis as possible.

Continuing medical education

From vocational training the College is slowly but inevitably moving towards the even larger challenge of continuing medical education for established principals. How this should be tackled is not entirely clear but it surely has to involve some form of objective assessment based on performance in the practice itself.

The lead was taken in 1973 by the new system of trainer selection in the UK. Regional general practice committees in every