than conventional treatment. In terminal renal disease and perhaps some hepatic disorders transplantation offers the patient a prospect of a life of improved quality and length. In diabetes mellitus, however, conventional treatment produces an acceptable control of carbohydrate metabolism; so that, until a method of immunosuppression is developed which is safe and selective, pancreatic transplantation in man seems hard to justify.

Patients in the News

Relations between doctors and the press can never be easy, for there must be a conflict of interest between the patient's need for a confidential relationship with his doctor and the editor's need to grip the attention of as large a public as possible. It has become a truism that medicine is news—not medicine as practised 99% of the time, not the medicine and surgery that have made Britain one of the healthiest countries in the world—but rather the dramatic novelty applied in the highly exceptional case. Thus even a helpful and well-informed journalist writing for the lay public can usually do no other than provide a picture of medical affairs that is remote from the experience of most medical men and women.

When interests diverge so considerably, it is not surprising that sharp criticisms are made from time to time. Last Sunday Professor Roy Calne, of Cambridge, one of the leading surgeons in developing operations for the transplantation of the kidney and the liver, told a gathering of newspaper editors that in his view deaths had been caused by irresponsible reporting. He considered that untruthful reports about his work had deterred relatives from giving their permission for removal of organs from dead next-of-kin, with the result that patients had died without being given the chance of receiving a transplanted organ.

While any assessment of the effects on public conduct of newspaper reports must be problematical, the misleading treatment of news can only be deplored. But, if a special obligation rests on newspapers not to put difficulties in the way of the treatment offered to sick people, so too every doctor owes a duty to his patient, and his colleagues also, to avoid undesirable publicity. It is a matter for regret that not all members of the profession have so scrupulously followed its traditional precepts in dealing with the mass media as have Professor Calne and his colleagues.

This year's annual report of the B.M.A. to the Representative Body restates the principles that should guide doctors:

"Doctors are reminded that every precaution should be taken to protect the anonymity of patients, whether donors or recipients. Much distress has in the past been caused to the relatives of donors, following their own consent lightly given, by reason of publicity far beyond what they might reasonably have expected, and it is wise to mention this aspect to them. Equally, excessive publicity might well occasion feelings of guilt in the recipient."

As these words suggest, in the protection of his patient's confidence the medical man does not always get the help he might expect from the patient himself. Moreover, it is generally accepted that the profession has a duty to help in the education of the public on the nature of medical developments, for if doctors shun this role others less informed will play it for them. Confusing requests can thus suddenly inundate a medical man engaged in the care of a patient whose condition or treatment excites the attention of the press. In addition to guidance from the General Medical Council he can find help in a report approved last year by the Representative Body of the B.M.A.

Acute Infective Gastroenteritis

For the second year running outbreaks of gastroenteritis have occurred at about the same time of the year in children's hospitals in different parts of the country. The mortality rate has been high. The term acute infective gastroenteritis or infectious diarrhoea is applied to cases of gastroenteritis with frequent loose stools, with or without vomiting, in young children in whom an infection of the gastrointestinal tract is presumed or known to be the cause. This differentiates cases of so-called parenteral diarrhoea associated with respiratory, urinary-tract, and other infections, though differentiation on clinical grounds may be very difficult.

The principal micro-organisms causing infective gastroenteritis are shigellae, salmonellae, and enteropathogenic strains of Escherichia coli. Extensive studies carried out on a world-wide basis have shown that specific bacterial pathogens could be isolated from between 22 and 64% of such cases. Thus about 50% could not be diagnosed by conventional bacteriological techniques. What about other causes? In the absence of a bacteriological diagnosis it is customary to look for a virus cause, but whether this is justified on present evidence is not clear. Over the past two decades several groups of viruses—for example, enteroviruses and adenoviruses—have been isolated from infants and children with diarrhoea. Some of these have had mixed infections with pathogenic bacteria and viruses. These studies have certainly shown a higher isolation rate of enteroviruses, notably certain strains of E.C.H.O. virus, from patients with diarrhoea than from age-matched controls, but conclusive evidence of causation is lacking. Furthermore, cases in which a virus has been suspected of causing the disease have seldom exhibited the severe symptoms associated with bacterial infection. Viruses tend to get blamed for disease for which they are not responsible, and this may divert us from looking for bacterial and other pathogens.

This is seen in the case of the enteropathogenic strains of E. coli. The first recognition of a specific antigenic type of Bacterium coli (now Escherichia) associated with infantile diarrhoea was made by J. Bray in this country nearly 25 years ago. Later, strains of the same organism were consistently isolated during outbreaks of infantile gastroenteritis in maternity units, residential homes, and wards of a children's hospital. E. coli comprise the largest group of micro-organisms inhabiting the intestinal tract. Differentiation of E. coli serotypes was made possible by the work of F. Kauffmann on the basis of three principal antigens—
somatic antigen O, surface antigen K, and H flagella antigen. Of the 150 or more *E. coli* serotypes about 10 have now been identified in many sporadic cases and outbreaks of gastroenteritis in different parts of the world. The principal enteropathogenic strains are O26, O55, O86, O111, O112, O119, O124, O125, O126, O127, and O128. Infection with these strains sometimes occurs without symptomatic illness even in the infant. Thus Scott Thomson and his colleagues found that about 25% of young children were infected with types O111, O55, and O26 during the first year of life. But these strains may produce serious disease in other infants. This has been ascribed to variation in virulence among strains, and it may well be so, but the reaction of the host has also to be taken into account. In the Tees-side outbreak of 1967–8 *E. coli* O128 caused serious disease and death; in London at the same time fatal cases were associated with O126 infection.

Infection with *E. coli* is apt to be specially severe in young infants, particularly in the first six months of life, and even more so in those with congenital defects such as tracheo-oesophageal fistula, meconium ileus, intestinal atresia, and congenital heart disease, many of whom require surgical treatment when very young. Furthermore, the young infant suffers from a natural immune deficiency in respect of many Gram-negative infections, because agglutinins from the mother, which are contained in the IgM fraction, are not transferred across the placenta. A second deficiency in newborn babies is the absence of IgA antibody from their secretions.

Clinically, infection with *E. coli* shows great variation. It may present with fever, anorexia, and sudden diarrhoea and vomiting to such an extent that gross dehydration rapidly ensues. The old term “cholera infantum,” which might have applied to cases of this type, is still a good description. But the onset may be insidious, and for the infant at home this creates a real risk if the mother does not recognize her child is ill. How can these cases be identified? The first point is to bear in mind that the problem exists and *E. coli* is an important cause of infantile gastroenteritis. Every effort, therefore, should be made to identify pathogenic or potentially pathogenic strains. The method of identification of *E. coli* enteropathogenic serotypes has been described by Joan Taylor, and polyvalent sera with the ten principal strains are readily available. In addition considerable advances have followed the introduction of fluorescent antibody techniques. It is preferable to test faeces rather than rectal swabs, and this is particularly important when rectal swabs are not stained with faeces and their culture shows no growth; it is also important to check slide agglutination by tube agglutination to confirm the identification of the O antigen.

The polyvalent sera generally available contain antisera to the 10 strains already mentioned, but there are several other strains not represented in the polyvalent sera for which only type-specific sera are available. Cases of gastroenteritis in the London area earlier this year were identified by the Salmonella Reference Laboratory as due to strains O114 and O18, both of which are accepted, though not common, causes of infantile gastroenteritis. These were from cases with severe symptoms from which *E. coli* has been isolated, but all tests with the polyvalent sera were negative. It appears that strain O114 may be responsible for cases in the Manchester area. The possibility exists, therefore, that some unexplained cases of gastroenteritis may be due to rare or even to new serotypes of *E. coli*.

The management of these cases calls for skilled teamwork by medical and nursing staff. The infants may be in a state of shock due to loss of fluid and electrolyte imbalance. The recognition of this is urgent, for the restoration of both fluids and electrolytes requires immediate attention. The babies will need carefully controlled intravenous therapy, which may have to be prolonged for several weeks. They often suffer from disaccharide intolerance after the infection and may also be intolerant to milk protein. Their dietetic management therefore demands special skill. The role of antibiotic treatment is extremely difficult to assess. Many of these organisms now show multiple resistance, and antibiotics have no dramatic effect on the intestinal infection. Antibiotics have an important role in the treatment of septicaemia and then should be selected on the basis of sensitivities of the infecting organism and suitability of the antibiotic for parental administration.

What steps can usefully be taken in such a situation, because it must be accepted that there is no single remedy or drug with which to treat infantile gastroenteritis? As soon as an outbreak is detected, or even suspected, admissions should be rigidly controlled. And what constitutes an outbreak? It used to be taught that one case of paralytic poliomyelitis in a parish should alert attention and two cases was an outbreak. A ward in a children's hospital is not unlike a parish in this respect. Therefore potentially susceptible infants should not be introduced into an infected area until the position can be assessed both epidemiologically and bacteriologically. Understandably this causes concern and inconvenience both to doctors and to parents if patients on the waiting-list have to be deferred. But these are serious infections with a high mortality. Moreover, it is in these very situations of caring for sick children that the strictest precautions should be taken to prevent spread of infection—such as the prevention of overcrowding and scrupulous attention to hand-washing.

The problem of coping with asymptomatic excreters is difficult, but certainly such children should not be allowed to mix with young children or moved to an area where there are children at risk until exclusion of the organism has stopped. This may be a long time.

In England, Wales, and Scotland infantile gastroenteritis is not notifiable, but it is in Northern Ireland and the Irish Republic. As further outbreaks of this type of infection seem likely, it may be advisable to make it more widely notifiable. Infectious hepatitis, which has been notifiable in some areas for 25 years, has now been made generally notifiable to gain more information about its incidence and epidemiological background. The same information is needed about gastroenteritis.