9. Working Parties

Reports about the following have been submitted to Council:

(i) The Role of Married Women Doctors in Paediatrics. (Now submitted to the BMA).
(ii) Paediatric Registrar Appointments.
(iii) School Health Service.

Reports on the following are being prepared:

(i) Planning of Hospital Paediatric Departments.
(ii) The Training of Pupil Midwives in Paediatrics.
(iii) Integration with the Faculty of Community Medicine.
(iv) Child Abuse.
(v) Hospital Facilities for Children undergoing ENT Treatment.

Council is grateful to the Members who have served on Committees and Working Parties during the year, and also to those who have represented the Association on both statutory and voluntary bodies. Many individual Members have helped the Association by their advice, suggestions, and criticisms.

10. Matters Concerning Government Departments

Department of Health and Social Security. Comments on the following have been submitted to the Department:

(i) The Future of the School Health Service.
(ii) Paediatric Registrar Appointments.
(iii) Abortion.
(iv) Asa Briggs Report on Nursing.

Scientific sessions

These were held on Wednesday, Thursday, and Friday, 4–7 April, and the following communications were presented.

M. A. P. S. Downham introduced by S. D. M. Court. Newcastle. 'Clinical significance of parainfluenza virus infections in children'.

M. Purcell (D. P. G. Bolton and K. W. Cross) introduced by K. W. Cross. London. 'Upper airway obstruction in the infant'. Nasal airway resistance in the infant has interested us for these reasons. (1) Some babies can undergo severe upper airway obstruction without showing any appropriate response (Cross and Lewis, 1971). (2) Babies will not breathe normally through their mouths (the 50% survivors in cases of posterior choanal atresia are those who cry to ventilate their lungs). Investigation of babies referred to us has shown that airway resistance may be increased tenfold above normal with only minor signs—such as mild rib recession.

An oral airway was found to reduce the work of breathing enormously, and we were able to calculate the fall of resistance using a plethysmographic technique. It was characteristically reduced to a third or less of that when nose breathing. This resistance was still high compared with normal values, and improvements in the design and placing of the airway are under review.

It was striking that the discomfort of the airway was well tolerated only when the improvement in resistance was clearly demonstrable.

That we had 5 infants referred to us in the first month after announcing our interest suggests that this is a widespread problem.

Reference

Cross, K. W., and Lewis, S. R. (1971). Upper respiratory obstruction and cot death. *Archives of Disease in Childhood*, **46**, 211.

S. Godfrey. London. 'Treatment of perennial childhood asthma'. In the past 5 years disodium cromoglycate and the steroid aerosol beclomethasone dipropionate have both been developed in Britain for treating asthma.

Carefully documented long-term trials of these drugs have been carried out in children with persistent asthma requiring continuous medication. Progress has been evaluated by clinical observation, diary records, exercise tests and, in many cases, by the twice daily recording of peak flow rate at home.

In a study of the efficacy of disodium cromoglycate it was found that 84% of children could be adequately controlled for a full year on this drug compared with 24% receiving bronchodilators. An increased frequency of administration improved the response in about 40% of otherwise poor responders. Further follow-up showed a very small relapse rate after a year of successful control and the cumulative success rate for up to 3 years was 72%.

Those children who could not be controlled by cromoglycate required steroids. Initially the alternate morning regimen or corticotrophin was used, but a trial of beclomethasone aerosol has clearly shown that this drug can totally replace other steroid therapy, giving better control of symptoms without any evidence of systemic activity. These drugs have great potential value for the paediatrician.

P. A. Zorab. London. 'Prognosis for life in childhood scoliosis'. Since 1962, 629 patients with scoliosis, the majority of whom were children or young adults, have been assessed at Brompton Hospital. The majority were referred by Mr. C. W. Manning from his Scoliosis Clinic at the Royal National Orthopaedic Hospital, London. Over 80% continue to attend. Physical examination, chest radiography, electrocardiography, and pulmonary physiological testing are done routinely.

The majority of patients have so-called idiopathic, paralytic, or congenital spinal curvature, but other groups with, for example, Friedreich's ataxia, Marfan's syndrome, neurofibromatosis, and muscular dystrophy are included. 33 deaths are known to have occurred. The cause was known to be 'respiratory' in 14 patients and 'cardiac' in 10. In general, it has been found that scoliotic patients in middle age die from cardiac insufficiency while those in childhood more often die from acute respiratory infections, especially if a congenital cardiac lesion is present. The warning features of danger to be found in childhood are dyspnoea at rest, the presence of important general medical

disorders such as Marfan's syndrome, Friedreich's ataxia, or muscular dystrophy, the presence of congenital cardiac malformation, weak respiratory muscles, or extreme scoliosis.

The management suggested for any child with spinal curvature is continuing supervision throughout the years of growth by *both* a children's specialist and an orthopaedic surgeon orientated towards scoliosis, early correction of any congenital heart lesion, very early treamentt of respiratory infection by antibiotics, and admission where practicable to an intensive-care unit for any scoliotic child becoming distressed. If these measures are carried out there is a good chance that most cases will survive.

P. T. BRAY. Cardiff. 'Newborn screening for cystic fibrosis'. The results of 80,000 screening tests in newborn infants carried out as part of the work of the European Working Group for Cystic Fibrosis were presented and analysed. Techniques employed included analysis of meconium for abnormal protein content by chemical methods, Albustix, Labstix; and a recently introduced Boehringer 'Test-Strip', as well as immunodiffusion methods. Sweat electrolyte determinations by direct reading ion-specific electrodes were also used, and measurements of the electrical conductivity of the skin, neutron activation analysis of nails and hair, and estimation of the sodium content of parotid saliva and electrolytes in the tears.

The work is related to the case for screening in general and screening for cystic fibrosis in particular, with regard to the possibility of earliest diagnosis leading to prevention or mitigation of the severe bronchopulmonary manifestations of the disease. The results obtained so far also enable one to assess the incidence of the disease in Europe with useful implications for genetics.

The data presented have been assembled by the subcommittee on screening of the European Working Group.

C. J. ROLLES introduced by Charlotte M. Anderson. Birmingham. 'Usefulness of a modified D-xylose absorption test in the preliminary diagnosis of coeliac disease and its later confirmation'. Though jejunal biopsy remains the definitive procedure in coeliac disease (CD), its use should be selective, and there remains a need for an accurate screening test.

Seventy-one children suspected clinically to have CD had a simple estimation of blood xylose one hour after a 5 g oral dose (given in the fasting state). Later, each had a jejunal biopsy. In all 30 subsequently proven coeliac patients, the xylose level was below 20 mg/100 ml: similar levels were found in 3 noncoeliacs. Had the xylose result been used to select the patients for jejunal biopsy, only 33 biopsies would have been performed, and no case of CD would have been missed.

The clinical, biochemical, and histological features of CD in young infants may be difficult to differentiate from a postinfective state. In coeliac infants withdrawal of gluten from the diet led to a prompt return to normal of the xylose test, usually within a week, while gluten reintroduction caused xylose absorption to fall within a few days. Children who had been on a strict gluten-free diet for over a year showed no immediate response to a gluten challenge, but did so if gluten was continued for 6 to 8 weeks.

D. N. CHALLACOMBE. Birmingham. 'Study of duodenal microflora and bile salts in contaminated small bowel syndrome'. As bacterial overgrowth of the small intestine may occur in infancy in association with chronic diarrhoea and in the absence of anatomical abnormalities of the bowel, the term 'contaminated small bowel syndrome' has been suggested.

This paper reports a qualitative and quantitative study of the aerobic and anaerobic microflora of the duodenum in infants with chronic diarrhoea. The bacteriological results are compared with a group of control infants in hospital with disorders unrelated to the gastrointestinal tract. The duodenal juice has also been examined for the presence of bile salt abnormalities which might be associated with bacterial colonization of the small intestine.

The absence of *Esch. coli* in the duodenum of control infants and their presence in chronic diarrhoeal disorders suggests that this organism may play a role in the aetiology of chronic diarrhoea. As *Esch. coli* serotypes isolated from our infants were not among those commonly considered to be enteropathogenic, revision of the present concept of enteropathogenicity to include an increasing number of *Esch. coli* serotypes is proposed.

Unlike previous reports, deconjugated bile salts were not found in the duodenal juice of infants with secondary monosaccharide intolerance, but were present in one infant with secondary lactose intolerance. Concentrations of taurine conjugated trihydroxy and dihydroxy bile salts in the duodenal juice were significantly lower in patients with chronic diarrhoea than in age-matched controls.

ANN BANISTER introduced by G. W. Hatcher. Brighton. 'Management of hypernatraemia in infancy'. Controversy still exists over the optimal treatment of hypernatraemic infants. Limited information is available from one previous controlled trial.

38 infants with hypernatraemic dehydration (plasma sodium concentration more than 150 mEq/l.) and measured plasma osmolality greater than 350 mOsm/kg water were admitted to a trial of treatment using differing regimens of intravenous rehydration.

The effects of using 0·45% sodium chloride solution with dextrose at two rates of infusion and that of using 0·18% sodium chloride solution with dextrose were compared. The use of the latter solution given at the rate of 100 ml/kg estimated rehydrated weight per 24 hours is recommended, with the early introduction of potassium. This regimen produces a satisfactory rate of fall of osmolality and of effective rehydration, with minimal risk of producing convulsions or over-expansion of the extracellular fluid volume. A plasma expander must be used in the early stages of treatment where circulatory failure is suspected. Sources of continuing excessive fluid losses from the skin and the respiratory tract must be controlled.

Details of mortality and morbidity were given, and the