deformity'. Since 1960 the aetiology of congenital sternomastoid torticollis (CST) has been studied during observation of over 20,000 newborn infants. It proved possible to diagnose the condition at birth, though the torticollis was frequently 'latent' at this time because of neck shortness. Its presence was confirmed by histological examination in the case of 5 infants dying within 1-3 hours of delivery. Interstitial fibrosis, present at birth, was observed to increase during the postnatal period leading to hardening of the muscle or to frank 'tumour' formation. The incidence of CST, 0.3% at birth, subsequently diminished as the majority of muscles recovered; in the remainder torticollis became more apparent as the neck lengthened during early childhood. CST was noted after nontraumatic delivery, including caesarean section in 3 cases. It was always unilateral. Characteristically the infant lay with head flexed laterally onto one shoulder. The ear on this side, the affected one, was usually upturned and the jaw tilted away; often plagiocephaly was present. In a number of cases it was possible to show the similarity between the moulded postnatal appearance and 'position of comfort', and the radiologically determined prenatal posture.

During a study of 6756 consecutive deliveries, CST was observed in association with plagiocephaly ($P < 0.001$), facial deformities ($P < 0.05$), ipsilateral mandibular asymmetry ($P < 0.001$), congenital postural scoliosis ($P < 0.001$), CDH ($P = 0.12$), and congenital deformities of the feet ($P < 0.001$). A similar pattern of maternal pregnancy characteristics was observed as was encountered in association with these other congenital postural deformities. Thus, 53% of infants with CST were firstborn (expected 36%), and 20% presented by the breech (expected 5%). Maternal oligohydramnios was a frequent accompaniment and CST was noted to occur in association with bilateral renal anomalies causing fetal anuria.

These observations strongly support experimental work which suggests that CST is due to ischaemic fibrosis and shortening of the muscle secondary to venous occlusion which may be caused by persistent lateral flexion and rotation of the neck before birth. Trauma to the shortened muscle during delivery may be responsible for secondary damage to the muscle in some cases.

J. A. S. DICKSON, C. T. LEWIS, and V. A. J. SWAIN. Queen Elizabeth Hospital for Children, London. 'Milk bolus obstruction in the neonate'. In the years 1964 to 1972, 17 cases of milk bolus obstruction in neonates were treated at this hospital. The condition which was first seen in 1964 now accounts for 6% of the neonatal intestinal obstructions. The diagnosis should be suspected in a male infant (13 out of 14) who after progressing normally and passing changing stools becomes obstructed around the 5th day (range—1st to 10th). All were on a prepared cow's milk feed and 11 out of 14 a full-cream milk feed. 7 out of 14 of the babies passed blood by the rectum. On the plain x-ray there were small gut fluid levels and replacement of normal gas pattern in the right iliac fossa by an inspissated 'faecal' mass sometimes containing bubbles of gas or with

a ground glass appearance. Most had gas in the rectum. The first 14 babies were operated on, the last 3 were treated with Gastrografin orally or by enema. All the babies survived and, except the severely premature or abnormal, progressed normally. The cause appears to be inability of the babies to absorb the solid content of the feed which may also have been overconcentrated.

A. G. MCPHERSON. Southmead Hospital, Bristol. 'Neonatal peritonitis'. Neonatal peritonitis remains a dangerous condition. Factors complicating diagnosis and management include its low incidence, the diversity of aetiological factors found, and the severity of underlying or associated disease. 28 cases presenting since 1957 at Southmead General Hospital were reviewed.

Thirteen aetiological factors relating to mother or baby were found. 13 infants were premature, 10 had severe respiratory problems at birth. Maternal hydramnios was present in 7. 6 babies had had exchange transfusion.

The commonest findings were gangrenous volvulus and cystic fibrosis. Combined factors were often present. The usual presentation is with bilious vomiting, abdominal distension, and failure to pass normal meconium. 4 cases had distended abdomens at birth. Plain abdominal x-rays are of great diagnostic value. Pneumoperitoneum is diagnostic but absent from early films. Treatment is surgical. Close liaison with the paediatrician who sees the baby first is essential. In assessing results it is pointed out that many of these babies are small and/or suffering from serious conditions such as haemolytic disease, cystic fibrosis, or gangrenous volvulus. 8 cases were considered unfit for surgery. Of 20 submitted to surgery, 12 survived, mostly in the later part of the series.

J. A. DODGE. University Hospital of Wales, Cardiff. 'Maternal factor in infantile hypertrophic pyloric stenosis'. In a study of 526 patients with infantile hypertrophic pyloric stenosis in the Belfast area, it became evident that a purely genetic aetiology was unlikely. Environmental factors such as birth rank, social class, seasonal variation, and type of feeding all appeared to influence the incidence of the disorder. Furthermore, though the infants deviated significantly from the general population in respect of their ABO blood groups, with a deficiency of group A, their mothers showed an even greater divergence from the control distribution. This suggests that the intrauterine environment may predispose to the development of infantile hypertrophic pyloric stenosis, perhaps by transplacental passage of a teratogen.

Experimental work in dogs succeeded in reproducing hypertrophic pyloric stenosis in pups born to mothers who were treated with pentagastrin during pregnancy. This animal model may be relevant to the disorder in the human and indicates a mechanism by which maternal variations can produce pathology in the infant.

J. D. ATWELL, P. L. COOK, C. J. HOWELL, I. HYDE, and B. C. PARKER. The Children's Hospital,

Southampton. 'Familial incidence of bifid and double ureters.' Published in full in the *Archives*, **49**, 390.

M. DUNN and M. H. GOUGH. The Radcliffe Infirmary, Oxford. 'Pre- and postoperative medication in day-case surgery'. A prospective blind trial of pre- and postoperative medication for children undergoing relatively minor surgical procedures under general anaesthesia was described. Over two-thirds of the children required no postoperative medication either in hospital or later at home. The children ranged in age from 10 weeks to 14 years. A standard oral premedication of trimeprazine 2 mg/lb body weight, and atropine 0.1-0.4 mg according to age and weight, was given 2 hours before operation. General anaesthesia was induced by intravenous thiopentone and maintained by nitrous oxide and halothane without intubation. The postoperative analgesic was selected blindly and was dispensed before the child was taken to the operating theatre so that it could be given in the recovery ward if necessary. The analgesics used were pethidine, mefenamic acid, and soluble aspirin which had been specially prepared in paediatric dosage and made palatable. A large variety of operations were performed including circumcision, hernia repairs, and orchiopexy. All these children were treated on a day basis and none needed to stay in hospital overnight.

J. J. CORKERY. The Children's Hospital, Birmingham. 'Some social aspects of day-case surgery'. A personal series of 900 consecutive surgical day-cases, operated upon during a 4-year period, has been analysed with respect to diagnosis, age, postoperative morbidity, and child's parents' reaction to the procedure, social class, distance of home from hospital, and transport arrangements on day of operation.

H. B. VALMAN. Northwick Park Hospital, Harrow. 'Long-term management after resection of ileum'. 12 children who have survived resection of more than 45 cm of ileum (8 during the neonatal period and 4 later in childhood) have been reassessed at periods between 3 and 16 years. 2 children received low-fat/high-protein diets and vitamin supplements for 9 and 13 years after resection in the newborn period and showed no advantage in growth compared with those who had a normal diet 2 years after the resection. Though the older children still have steatorrhoea, radiological evidence of rickets was not found in any patient.

Impaired absorption of vitamin B₁₂ has been shown by a whole body counter technique in 7 of 10 children; and in one of these overt vitamin B₁₂ deficiency occurred at puberty. Urinary oxalate excretion was raised in 4 of 10 patients. 6 of the 8 children who had a resection in the neonatal period had normal intelligence as assessed by the draw-a-man test. After resection of the ileum reassessment is desirable at least once a year until after puberty to detect vitamin B₁₂ deficiency and hyperoxaluria.

P. M. JONES and J. E. S. SCOTT. Royal Victoria Infirmary, Newcastle. 'Disseminated intravascular

coagulation complicating surgery in childhood'. Disseminated intravascular coagulation (DIC)—synonyms defibrination syndrome, consumptive coagulopathy—is a recognized complication of a wide range of pathological states. In paediatric practice DIC is found most commonly in septicaemia, shock, the haemolytic uraemic syndrome, and severe haemolytic disease of the newborn. With the continued application of refined surgical and medical techniques in the management of severely ill babies the incidence of DIC will increase. Early diagnosis is essential to prevent irreversible haemorrhage and/or ischaemia of vital organs.

The history of a 19-week-old male infant was reviewed as an example of the presentation, diagnosis, and management of DIC. After reduction of an ileoileal intussusception and resection of a 10 cm length of necrotic ileum, bleeding from venepuncture sites and bruising were noted. The results of haemostatic function tests were consistent with a diagnosis of DIC with prolongation of clotting times, raised fibrin(ogen) degradation products, and thrombocytopenia. While heparin therapy successfully blocked DIC, thrombocytopenia persisted and the postoperative course was further complicated by peritonitis and jaundice. The child died on the 10th day, necropsy confirming necrotizing enterocolitis with anastomotic perforation.

The management of DIC raises problems of venous sampling, the interpretation of laboratory findings in the presence of concomitant liver disease and thrombocytopenia from other causes, and the indications for, and monitoring of, heparin and blood product therapy.

R. BAYSTON. The Children's Hospital, Sheffield. 'Effects of cloxacillin on the flora of the skin and anterior nares'. On the assumption that the reduction of skin flora might lessen the risk of shunt colonization after revision procedures on ventriculoatrial shunts, a pre-operative course of a suitable antibiotic has sometimes been recommended.

A study of the effect on growths from forehead pad impressions and swabs from the anterior nares was made on 2 patients and 5 volunteers treated with cloxacillin for 1-11 days. *Staphylococcus pyogenes* when present on the skin disappeared during the course in all cases: it was not always eliminated from the nose. No *Staph. pyogenes* became resistant to cloxacillin. All the cases grew *Staph. albus* both in the nose and on the skin. The 2 children had resistant strains but all strains at the beginning of the trial in the adults were sensitive to most antibiotics. Two adults showed resistant strains during the course but these did not become established. 'Faecal' organisms not normally seen on the forehead appeared in both children and 2 adults: these disappeared at the end of the course. In 2 children and 3 adults diphtheroids appeared in the nose or forehead at some time during the trial and tended to persist. No effect was observed on the numbers of organisms present in either site. The additional organisms replaced some of the original organisms but flora present before treatment persisted throughout the course.