Disorders of Defaecation in Children

Disorders of bowel habit in children are notoriously difficult to manage. To the mother failure in toilet training is considered to be a reflection upon herself, and she may make strenuous efforts to conceal the evidence of faulty control of the bowel in her child from relatives, friends, and doctors.

In considering the problem of abnormal bowel habits in children a clear distinction must be made between organic and "functional" disease. Apart from anatomical deformities such as anal stenosis, Hirschsprung's disease is the most important organic condition which must be considered. Symptoms of this disease are invariably present from the neonatal period, with prolonged periods without a bowel motion and accompanied by extreme gaseous distension of the abdomen or actual intestinal obstruction. The infrequent stools are small and "rabbit" in type, but occasionally an infant may present with severe diarrhoea. Thus any disorder of bowel habit with infrequent stools which comes on after a period of months or years of normal defaecation is almost certainly not due to Hirschsprung's disease.

In infancy, however, the passage of hard stools is not uncommon and may cause an anal fissure, with a resulting fear of defaecation. This may ultimately lead to voluntary retention of the faeces, which in turn become hard and painful to pass. A vicious circle may then be set up, which may last for many weeks or months. In the older child, on the other hand, faecal soiling is more difficult to evaluate. A detailed history will usually show whether the soiling is due to leakage of soft faecal material through the anal sphincter, or whether it is due to an involuntary or voluntary act of defaecation which is inappropriate in time and place. Constant faecal soiling is due to the softening of impacted faeces in the rectum and anal canal or to mucus and faeces leaking round a firm faecal mass. There is usually a history of a normal bowel habit until a period of constipation which is followed by faecal soiling: the cycle may be ended by the passage of a very large motion often described in revealing terms, after which the sequence will be repeated. The circumstances which set off this dismal story can often be easily identified. A period of mild dehydration with constipation may accompany a febrile illness, a spell of hot weather, a long car journey, or a summer holiday—or an admission to hospital for a minor operation, or starting school, may be the initial cause. There is obvious perianal soiling, the anal sphincter is lax, and firm faeces fill the anal canal. There is no question of voluntary defaecation in such cases; the child may spend long periods attempting unsuccessfully to defaecate. Management is not easy in long-established cases; enemas and wash-outs should be avoided unless other measures fail, and most children will respond to the use of liquid paraffin initially followed by carefully regulated doses of proprietary senna preparations. A full explanation to both parent and child is essential. Nevertheless, relapse is common, and it is difficult to avoid the conclusion that in many instances there is an underlying emotional disorder in child or parents, or both, which prevents the re-establishment of a normal bowel habit.

Margit Bellman in Stockholm has recently conducted a survey into "encopresis." Most of the children in this group had either never gained normal bowel control ("primary encopresis"), or had broken down after a period of normal control ("secondary encopresis"). Constipation did not play an important part in the troubles of these children, who seem to constitute a separate group from those with chronic constipation and faecal soiling. Dr. Bellman's findings are of interest. The condition was commoner in boys, and of the whole series encopresis was mentioned in the school record card in only 11%. The mothers of affected children tended to be over-anxious, and coercive pot-training was common. "Accidents" were punished severely, and yet at other times the mother was indulgent. The children were lacking in self-assertion and rarely had the normal period of defaecation at the age of 2–3 years. Happily the majority had lost their bowel symptoms by the age of 10 years. Thus the conclusions of this interesting study seem to justify the introduction in 1925 of the distinctive term "enkopresis" by C. Pototsky. 3

Muscuno-skeletal Disorders after Renal Transplantation

A variety of skeletal and muscular disorders have been described after renal transplantation. They fall into three main categories: complication of high doses of corticosteroids, consequences of inadequate renal function, and changes in parathyroid function. It is often necessary to treat patients with transplants with very high doses of corticosteroids, rising to as much as 200 mg. of prednisone a day during rejection crises. In addition to the usual features of Cushing's syndrome, de mineralization of the bones may result in renal stones and pathological fractures. If the high corticosteroid dosage needs continuing it can stunt the growth of children. Arthropathy resembling gout can follow renal transplantation. However, chemical analysis of the periarticular deposits shows high concentrations of calcium and phosphorus, with negligible amounts of urate. The joint surfaces themselves are not involved, and the lesions are probably due to a crystal-induced arthropathy which has been called pseudogout. 2 It has been reported in patients on chronic intermittent dialysis 5 and is probably due to insufficient dialysis, while in patients with renal transplants it is almost certainly due to poor function in the transplant.

Secondary parathyroid hyperplasia is a common sequel to

long-standing renal disease. J. J. McPhaul and colleagues described the development of autonomous hyperparathyroidism after restoration of renal function by a transplant. After transplantation there was marked hypophosphataemia, phosphaturia, hypercalculation, and hypercalcaemia. Patients with this syndrome may require removal of the parathyroid glands to prevent formation of stones and decalcification of the bones.

J. F. Bravo and colleagues have reviewed 60 long-term surviving patients with renal transplants, the mean follow-up being 491 days from operation. Of these patients 38% had one or more clinical signs of connective-tissue disorder, apart from muscle weakness, skin diseases, osteoporosis, or neuropathy. Five patients suffered from avascular necrosis of the bone, five from synovitis, thirteen from arthralgia, and ten from diffuse musculo-skeletal pain. Anti-gammaglobulin activity against human globulin was found between the second and twenty-eighth weeks after operation in 93% of cases regardless of the presence or absence of rheumatic disorders. Antibodies to deoxyribonucleic acid and ribonucleic acid were found in 40% and 28% respectively. These workers were unable to detect antibodies to specific constituents in synovial membranes, skeletal muscle, blood vessels, liver, or kidney.

Determination of plasma lipids showed fluctuating abnormalities in free and esterified cholesterol, phospholipid, triglycerides, non-esterified fatty acids, and total lipid levels. The synovial fluid consistently showed both intracellular and extracellular refractile, oval, lipid-staining particles varying from less than 1 to over 25 μ in diameter. Bravo and colleagues suggest that the aberrations of lipid metabolism may be secondary to corticosteroid therapy. The very high incidence of the rheumatoid factor in the serum in patients with transplants is of interest, though the mode of production of these antibodies is at present unknown. Humoral antibodies were not found in transplants between twins.

It would seem likely from the work of Bravo and colleagues that all patients with renal homografts from donors other than twins would eventually develop rheumatoid factor in the serum, but there was no apparent relationship of the appearance of the rheumatoid factor to the pathogenesis of the connective tissue disorders, since the activity appeared regardless of the presence or absence of rheumatic complaints. The severity of rheumatic disturbances was not related to variations in dosages of immunosuppressive drugs. However, J. P. Jones and colleagues found evidence of fat emboli after rapid reduction of corticosteroid therapy, and fat embolism could be a cause of avascular necrosis of bone.

It is most important that evidence of muscular and skeletal disorders after kidney transplantation should be sought continuously, since early treatment may prevent disastrous consequences, particularly in hyperparathyroidism, when surgery can be entirely effective. There would seem to be a need for caution in suddenly changing corticosteroid doses, and no patient should be kept on high doses longer than is absolutely necessary. If good transplant function can be maintained, the pseudogout arthropathy will not develop.

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**Dangers of Squint**

The harmful effects that a squint may have on visual function are not always realized, so that delay in diagnosis, and hence of treatment, is of more frequent occurrence than it should be. The condition is fairly common in children. In fact the clinical study carried out in Manchester and Salford by Drs. A. M. Adelstein and John Scully reported at page 334 of the B.M.J. this week showed that over 4% of 6-year-old children had it.

The most serious sequel of untreated squint is amblyopia of the affected eye due to suppression of part of the vision, and it may eventually go on to loss of useful sight in that eye. It is by this process that a child with a squint may overcome the diplopia and confusion which tends to occur when the eyes are constantly looking in different directions. On the other hand a child with a squint may attempt to co-ordinate the function of both eyes by using the fovea centralis of the fixing eye in conjunction with an eccentric point on the retina of the squinting eye. This may operate only when both eyes are open, the squinting eye rapidly resuming foveal fixation if the other eye is covered. It is known as "anomalous retinal correspondence." However, if this abnormal association between the two eyes becomes more stable, the squinting eye may still tend to view a fixation object eccentrically in spite of the other eye being occluded, though the fovea maintains its normal directional value. Such eccentricity of viewing may later give way to "eccentric fixation," in which the eccentric point of fixation becomes relatively stabilized and assumes the principal visual direction of that eye. Eccentricity of fixation is in most cases associated with considerable amblyopia in the squinting eye, and prolonged treatment is usually required to overcome it. It is only in a squint freely alternating from eye to eye or an intermittent squint that really good vision is retained in each eye.

Statistical evidence in Adelstein and Scully's paper shows that the percentage of children with non-central viewing increases as the interval between onset of squint and its diagnosis (and effective treatment) increases. Furthermore it is most frequent in those children who start squinting early in life and less frequent when the squint starts later. This emphasizes the need to refer a doubtful case of squint immediately to an ophthalmologist, so that early treatment can be undertaken. Though a squint of large degree is more likely to attract attention than one of small degree, the adverse effect on visual function may be just as serious in the latter. Every clinician should be familiar with the method of diagnosis of squint by means of the cover test.

Adelstein and Scully have also shown that the longer the interval of time between onset of squint and diagnosis the greater the percentage of children showing non-central viewing. Non-central viewing was most frequent in those who developed a squint at an early age, and the frequency decreased progressively as the age of onset increased, but the trend of decrease was not shown in the group of cases showing the longest interval of time between onset and diagnosis. They also found that a difference in refractive power between the two eyes of two or more dioptres predisposed towards eccentric viewing, and that it was proportionately slightly more frequent in boys than in girls. Furthermore, there was also a tendency for the onset of squint to be commonest in the winter months, with a peak in January.