Short reports

Delayed diagnosis of congenital anal stenosis

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SUMMARY The consequences of a delayed diagnosis of congenital anal stenosis in 11 children are described. A plea is made for proper anal examination in the newborn, the technique for which is described.

Congenital abnormalities of the anus are easily detected. Nevertheless the diagnosis is sometimes missed, with serious consequences for the child. Between 1970 and the end of 1977, 11 children with minor congenital anal abnormalities, in whom the diagnosis was initially missed, were seen on one surgical firm at this hospital (Table 1).

After diagnosis and initial treatment intravenous urography was performed on each child; bilateral hydronephrosis and hydroureter due to posterior urethral valves were present in one patient (Case 11). The urograms were normal in all the others.

Treatment and results

All the children were treated surgically. Nine required anoplasty followed by dilatations. In the remaining 2 limited courses of anal dilatation were

sufficient. The results are summarised as either 'satisfactory' (Table 2) or 'unsatisfactory' (Table 3). The 'unsatisfactory' group all have persistent constipation with occasional faecal impaction; all require laxatives and, between them to date, they have had 17 hospital admissions. Four have had contrast enemas confirming the presence of a persistent megarectum. Two cases may be quoted.

Case 1. A boy aged 3½ years was referred because of overflow rectal incontinence. On inspection of the anus a congenital abnormality was obvious (Fig. 1). The obstructing rigid hood of skin was excised (Fig. 2).

Case 6. A 5-month-old baby girl presented with abdominal distension and diarrhoea. Before being seen by us a barium enema had been performed but the anus had not been examined. The enema showed an appearance compatible with Hirschsprung's

Table 1 *Details of 11 cases of anal stenosis*

Case	Sex	Age (months)	Presenting complaint	Anomaly
1	M	42	Faecal incontinence	Covered anus and skin tags
2	M	5	Constipation	Anal stenosis
3	F	5	Constipation; abdominal mass	Anal stenosis
4	F	6	Constipation	Anal stenosis
5	F	7	Abdominal mass	Anal membrane; stenosis and skin tags
6	F	5	Abdominal distension; diarrhoea	Anal stenosis
7	F	4	Constipation	Covered anus
8	F	4	Rectal bleeding	Anal stenosis and skin tags
9	M	1	Oesophageal atresia	Anal stenosis
10	M	1½	Abdominal distension	Covered anus
11	M	1	Constipation	Covered anus

Fig. 1 *Anal abnormality is obvious on inspection.*

disease (Fig. 3) and it was for this reason that a surgical opinion was sought. The anus looked normal but on attempting digital examination a tight stenosis at the dentate line was detected. Rectal biopsy was normal.

Table 2 'Satisfactory' group

Case	Age at presentation (months)	Functional result	Duration of treatment needed (months)
7	4	Normal	2
8	4	Normal	4
9	1	Normal	3
10	1½	Normal	7
11	1	Normal	3

Fig. 2 Obstructing skin has been excised.

Fig. 3 Barium enema (Case 6). Appearance is compatible with Hirschsprung's disease.

Table 3 'Unsatisfactory' group

Case	Age at presentation (months)	Functional result	Duration of treatment to date (months)
1	42	Unsatisfactory	12
2	5	Unsatisfactory	54
3	5	Unsatisfactory	11
4	6	Unsatisfactory	18
5	7	Unsatisfactory	21
6	5	Unsatisfactory	12 then lost to follow-up

Discussion

Although classed by us as a minor abnormality, anal stenosis, if neglected, becomes a major one requiring prolonged surgical treatment and supervision. The longer the stenosis is untreated the more severely affected the rectum becomes so that in the worst cases the rectum becomes grossly distended, insensitive, and apparently aperistaltic (Fig. 4). This constitutes a severe disability, the treatment is prolonged and major surgery may be needed. Our results (Tables 2 and 3) and the experience of others (Partridge and Gough, 1961; Stephens and Smith, 1971; Taylor *et al.*, 1973) show that the sooner the diagnosis is made and effective treatment instituted, the better the prognosis.

In 3 of these children simple inspection of the anus was sufficient to reveal an abnormality requiring closer scrutiny. However, the anus can look perfectly

Fig. 4 Barium enema in Case 5 showing huge megarectum full of faeces.

normal and yet be severely stenosed. The normal passage of meconium and stools is not a reliable guide to the state of the anus, as a stenosed anus will often allow meconium and the soft stool of the newborn to escape. Similarly a rectal thermometer can usually be easily introduced into the rectum in these cases.

The technique of anal examination in the newborn is easy. The anus should first be inspected and then palpated. The little finger, well lubricated, should be used. The finger is inserted into the anus, pad first, very slowly and very gently. The normal anus will stretch as this is done and in most cases a little finger can enter the rectum. However, the examiner's finger may be too big or, as in the case of a very small baby, it may obviously be unwise to over dilate and injure the anus. With practice all degrees of anal stenosis can be excluded without the finger tip entering the rectum. During the palpation two points in particular should be noted. Firstly, the absolute size of the anus. More important than this is the

suppleness or otherwise of the canal. A rigid anal canal is an abnormal one.

The anus is easily amenable to examination in the newborn. If there is any doubt that there is even a slight element of stenosis an expert surgical opinion should be urgently obtained.

References

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Acute anuric renal failure in an infant with systemic candidiasis

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SUMMARY We report a newborn baby who presented with acute anuric renal failure resulting from systemic candidiasis. The predisposing factors and diagnostic features are examined.

Although the newborn baby is susceptible to infection and mucocutaneous thrush is common, systemic candidiasis is rare. When it does occur in babies it usually causes osteomyelitis, arthritis, and meningitis. Renal failure is not a recognised feature.

Case history

A boy was born in August 1977 at 29 weeks' gestation, birthweight 1.430 kg. Respiratory distress syndrome developed and he required ventilation for 23 days. A blood culture taken at 2 days grew *Staphylococcus aureus* and he was given ampicillin and cloxacillin. Subsequently he received courses of gentamicin and carbenicillin.

He was fed intravenously from 3 to 22 days of age

via silastic cannulae. These were placed in various veins, including the left long saphenous. At 21 days the long saphenous site became infected and blood cultures grew *Candida albicans*. The cannula was therefore removed. Five days later 3 ml pus was drained from the abscess; Gram's stain showed yeast cells and mycelial elements; cultures produced a profuse growth of *C. albicans*. He was given benzylpenicillin, streptomycin, and lincomycin from 25 to 30 days and the abscess healed. Thereafter he made good progress and for 5 weeks he fed normally and gained weight. Five blood cultures during this period were sterile.

When he was 64 days old he suddenly became anuric and was transferred to Leeds. There was no urine in the bladder on catheterisation. An intravenous urogram showed nephrograms of 2 normal size kidneys which failed to excrete dye into the renal pelvis. A cystogram was normal; there was no urethral obstruction and no vesico ureteric reflux. After a week of anuria blood tests showed: Hb 6.4 g/dl, WBC $14.8 \times 10^9/l$ ($14\,800/mm^3$) (75%