This may be because the anus has been partially obstructed or the child has not been trained as in early childhood and infancy or in severe developmental delay. Obviously neuromuscular conditions such as spina bifida or muscle disease will also appear abnormal. Whether emotions which increase colonic activity will also increase the likelihood of reflex anal dilatation is unknown but theoretically possible—so the fear of examination or the fear of the remembered pain of buggery may increase the chance of seeing reflex anal dilatation.

What is vital is that we avoid suppressing research or information which might help to clarify the issues even if this means that some of our widely held opinions may be proved wrong. No one should be compromised by acting according to the current state of knowledge provided they are flexible when new data arrive.

References

Reflex anal dilatation and sexual abuse

Sir,

Dr Clayden’s article highlights the serious problem facing all paediatricians. In a similar clinic in Newcastle upon Tyne, over six years, large numbers of severely constipated children have been treated with considerable success. Anal laxness has been observed in some children with heavily loaded rectums. Gross persistent dilatation has only been noted in five. Like Dr Clayden, I have ‘satisfied myself’ that all the children I see do not appear significantly disturbed and function well once treatment begins. A formal sexual abuse inquiry has never been initiated from this clinic.

Between January 1987 and July 1988, however, I have also been responsible for the evaluation of over 200 children referred from outside agencies, because of clear disclosures, or strong suspicions, of sexual abuse. At least 10% of these have had a background of successful paediatric involvement for a variety of chronic problems, including vulvovaginitis, constipation, soiling, or wetting.

Examples include a boy attending for severe chronic constipation and soiling over three years. This boy disclosed abuse within a week of respite fostering (introduced for non-relevant factors). He had not previously displayed significant disturbance apart from the constipation. What is more, this serious symptom, which had required two anaesthetic manipulations and three admissions to hospital in the past, disappeared within three weeks of the disclosure. A girl referred by her general practitioner for venereal disease had been discharged eight weeks earlier after successful management of acquired megacolon over two and a half years in a paediatric clinic.

When a child discloses abuse, anal dilatation is undeniably strongly corroborative of that abuse. It would be foolish to ignore the same sign when a child presents with a recognised symptom of abuse. The presence of hard stool at the internal sphincter is not an uncommon finding, anal dilatation is. The fact that the sign is variable, depending on the severity of withholding, may simply reflect the variability of stool withholding depending on whether the abusive episode is recent or not.

Dr Clayden appears convinced he has established a system which enables him to exclude abuse in his patients. I have examined over 300 childhood victims of sexual abuse and have listened to their life stories. Despite this experience, I do not feel I have developed the skills to detect abuse within the confines and resources of the outpatient constipation clinic.

When sexual abuse is being manifest in a silent child by years of severe constipation and soiling, it is unrealistic to expect that silence to be broken in the process of medical intervention. Nor should we expect to see unequivocal behavioural evidence, enabling us to investigate with impunity. It seems to me quite extraordinary that formal sexual abuse inquiry should continually appear to stem from agencies outwith the paediatric department, when serious symptomatology is daily managed within.

Reference

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Sir,

We read the article by Dr Clayden on reflex anal dilatation in severe constipation with interest. We note that of his 129 constipated children, 20 (15%) had ‘visibly relaxed anal sphincters’. Most of the children had received invasive treatment (anal dilatation, enemas, or suppositories) and all were tertiary referrals.

In view of the current debate on anal dilatation in constipation and sexual abuse we have assessed the anal appearances in children presenting to this hospital with constipation. Infants were examined supine and children in the left lateral position, with the minimum separation of the buttocks sufficient to visualise the anus. We recorded the presence or absence of anal dilatation, specifying whether this was of the external sphincter alone (partial) or of both the external and internal sphincters (full), and whether this occurred immediately or by 30 and 60 seconds. We then recorded the level of dilatation after gentle stretching of the buttocks. The full dilatation described here corresponds to the definition of reflex anal dilatation given in the report of the Cleveland inquiry.

Over the last four months we have seen 72 constipated children with mild to moderate constipation, with or without soiling. All were primary general practitioner referrals and only one had received invasive treatment (suppositories). There were 39 boys and 33 girls aged 9 weeks to 12 years. Of these children, four showed partial...
and three showed full dilatation on inspection alone. With stretching two children showed full dilatation (one had previously been partial) and six new children showed partial dilatation. A total of 14 children (19%) showed some degree of dilatation. Of the five children who showed full dilatation at any time, one had a loaded rectum, one an abdominal faecal mass, and one both abdominal and rectal loading. Two children had no evidence of faecal loading; one of these had two fresh anal fissures and dilated immediately and the other only dilated on stretching the buttocks.

We cannot rule out coexistent sexual abuse in any child, although no evidence came to light after a detailed history and examination (with most children being examined more than once). No other abnormalities reported in anally abused children were apparent with the exception that six of the 14 had superficial fissures in comparison with 15 of 58 children without anal dilatation.

The time at which some degree of anal dilatation occurred without stretching was variable, but all those who dilated did so within approximately 30 seconds. In two children the signs persisted throughout the 60 seconds (one full, one partial), in three (one full, two partial) the dilatation disappeared within 2–3 seconds, and in two dilatation appeared at 30 seconds (one full, one partial) and persisted.

We thus agree with Dr Clayden’s finding that anal dilatation is a feature seen in constipation and is not related to anal treatment. In this delicate and difficult field we would urge all workers to define precisely what they mean by dilatation. Only then can the relationship between such signs and constipation or sexual abuse be fully elucidated.

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References

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Urinary creatinine excretion in the newborn

Sir,

In their study of creatinine excretion in the newborn Al-Dahhan et al give a mean excretion rate and derive a normal range. They then draw the conclusion, ‘that infants of postconceptional age 198–290 days may be regarded as belonging to a single population with respect to creatinine excretion factored by weight’, from a regression plot of creatinine excretion in μmol/kg/day against postconceptional age. This is described as showing ‘no significant relationship (r=0.19, p=NS)’. The positive correlation that exists is ignored by these workers because, in their study sample, the relationship fails to reach significance.

Unfortunately the p value is not quoted.

A positive correlation, however, between daily creatinine excretion factored by body weight and postconceptional age is also suggested by the difference in mean daily creatinine excretion in the sample studied by Al-Dahhan et al (90 μmol/kg/day), and that studied by Sutphen (71 μmol/kg/day). In the former study mean postconceptional age was 34 weeks, in contrast to 30 weeks in the latter. This difference is commented on by Al-Dahhan et al with surprise.

Our own study of creatinine excretion measured over 89 days in 31 babies of a mean postconceptional age of 29 weeks showed a mean excretion rate of 71 μmol/kg/day, a figure identical to that of Sutphen. Our study also showed a positive correlation between creatinine excretion factored by body weight and postconceptional age that failed to reach significance (r=0.2, p=0.1) (fig 1).

To explore this issue further we have analysed data pooled from the three previously reported studies of creatinine excretion in the newborn, and compared them with our own measurements. Each of these studies individually, including our own, has a comparatively small sample size. Analysis of the published summary statistics (table) shows that creatinine excretion factored by body weight does increase with postconceptional age (fig 2). The relationship is described by the following equation, which was derived using weighted least squares, with the sample sizes used as weights: creatinine excretion (μmol/kg/day) = 55.2+0.13 postconceptional age (days). The coefficient of postconceptional age is significant at less than 2%.

This is an important conclusion and one that is at variance with that of Al-Dahhan et al. Creatinine excretion factored by body weight is an index of the relative amount

![Fig 1 Weighted regression of mean daily creatinine excretion (μmol/kg/day) on postconceptional age (days).](http://adc.bmj.com/)

\[ y=10.59+0.3x, \quad r=0.2, \quad p=0.1. \]