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 analy 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 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](http://adc.bmj.com/)

**Fig 1** Weighted regression of mean daily creatinine excretion (μmol/kg/day) on postconceptional age (days). y=10.59+0.3x, r=0.2, p=0.1.
of muscle in the body; the implication of our conclusion is that the proportion of body weight that is muscle increases from 29 weeks' postconceptional age. This is in keeping with the percentage increases that is known to occur at later ages—that is, from 25% at full term, to 45% at puberty.

We do not feel it possible to derive a normal range from the summary statistics in the absence of the raw data. We also question attempts to draw population directed conclusions from studies of small sample size. Collaboration between the groups who have published would seem a better approach to estimate population characteristics with reasonable accuracy.

References


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