enema examinations. The rectal thermometer was first implicated by Segnitz (1957) and since then a further 10 patients have been reported. Greenbaum et al. (1969) found a 70% mortality in this condition and, taking into account the few more recent cases, the mortality still approaches 50%. One reason for this high mortality is that a small rectal perforation is often difficult to find at laparotomy. The perforation in Case 3 was found only with difficulty and, in the patient reported by Segnitz (1957), the perforation was missed and only found at necropsy. It is important therefore, in any baby with a pneumoperitoneum, to examine the rectum carefully if no other site of a perforation has been found.

Smiddy and Benson (1969) pointed out that the shape of the neonatal rectum causes a thermometer to impinge on the anterior wall when it is inserted to a depth of 2 cm and any attempt to push it further may result in perforation. Merenstein (1970), stated that the thermometer needs to be inserted to at least 5 cm to get an adequate core temperature. These arguments would seem to be superfluous, as Tsingoglou and Wilkinson (1971) showed that the closed axillary temperature correlates well with the rectal temperature and that if there should be any difference it would be no more than 0.2°C.

We therefore agree with the editorial in British Medical Journal (1970) that the only way to eradicate this potentially fatal condition is to stop 'unhygienic, unnecessary, and dangerous' use of the rectal thermometer in the neonate.

Summary

Three neonates with rectal perforations, probably caused by the use of the rectal thermometer, are reported. The dangers of this condition and the difficulty of diagnosis even at laparotomy are emphasised. It is suggested that since the axillary temperature in the neonate is an adequate reflection of the core temperature the routine use of the rectal thermometer, except in exceptional circumstances, should cease.

We thank Professor A. W Wilkinson for permission to report these patients.

References


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Editorial comment

Four paediatricians, with much neonatal experience, Dr P. M. Dunn (Bristol), Dr J. M. Parkin (Newcastle), Professor J. Scopes (London), and Dr N. R. C. Roberton (Cambridge), were asked to comment on this report and to give their views on when, and how, the temperature of (a) normal newborn babies, and (b) preterm, and other babies in special care, should be taken.

(a) Normal babies. 3 of the 4 agreed that the babies' temperature should be taken on arrival from the delivery room to the lying-in ward. Thereafter some continued to take temperatures once or twice daily, others only if some indication was present. An ordinary glass thermometer is used rectally in two units and in the axilla in two.

(b) Preterm and special care babies. All agreed on the importance of regular thermometry, with the frequency depending on the individual case. While rectal thermometers (glass or electric) are still often used, continuous recording of skin (or axillary) temperature is much favoured.

Dangers. Breaking of glass thermometers in the rectum was an occasional accident, although this did not necessarily lead to the dire results reported. Infections had occasionally been traced to rectal thermometers.

Teaching. There does not seem to be an established technique taught to nurses on how a rectal thermometer should be inserted to avoid trauma.

A useful discussion of these matters is on pp. 105–106 of Medical Care of Newborn Babies (1972) by Davies, Robinson, Scopes, Tizard, and Wigglesworth.