the experimentally based hypothesis that salmonella-induced secretory diarrhoea is mediated by prostaglandins. Oral aspirin has recently been reported to reduce fluid losses in childhood gastroenteritis by mechanisms not specified.⁴ In the light of the findings in our patient this effect may, in part, be attributed to the prostaglandin synthetase-inhibiting property of aspirin.

References

- Kimberg D V, Field M, Johnson J, Henderson A, Gershon E. Stimulation of intestinal mucosal adenyl cyclase by cholera enterotoxin and prostaglandins. *J Clin Invest* 1971; **50**: 1218-30.
- Gianella R A, Gots R E, Charney A N, Greenough W B, Formal S B. Pathogenesis of salmonella-mediated intestinal secretion. Activation of adenylate cyclase and inhibition by indomethacin. *Gastroenterology* 1975; **69**: 1238-45.
- Gianella R A. Importance of the intestinal inflammatory reaction in salmonella-mediated intestinal secretion. *Infect Immun* 1979; **23**: 140-5.
- Burke V, Gracey M, Suharyono, Sunoto. Reduction by aspirin of intestinal fluid-loss in acute childhood gastroenteritis. *Lancet* 1980; **i**: 1329-30.

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Transpyloric feeding in infants undergoing intensive care

Sir,

Experience with nasojejunal (NJ) feeding using the Vygon preweighted silicone rubber tube at the Jessop Hospital for Women, Sheffield, has been similar to that described by Dryburgh.¹ Between January 1977 and December 1979 60 infants (mean birthweight 1.37 kg, range 0.50-2.5) were fed by this route for a mean duration of 29.4 days (range 5-69) and have been described in detail elsewhere.² Thirty-nine required ventilatory assistance. The following observations may be of help to clinicians who wish to use NJ feeding for infants of low birthweights.

In our unit nursing staff were taught to pass NJ tubes using a similar method to that of Dryburgh except that gastric air insufflation was used to help passage through the pylorus.³ Eighty-five per cent of initial tube placements were successful at the first attempt (confirmed radiographically) in infants of birthweights of at least 1 kg. In smaller infants greater difficulty was encountered due to poor peristalsis; and in infants weighing 0.70 kg or less, the stainless steel weight did not readily negotiate the tight curve of the duodenal loop, apparently owing to its length (1 cm), and this led to a delay in starting enteral feedings. A NJ tube with a shorter weight (say 0.5 cm)

might pass more quickly. In 70% of our infants the NJ tube became dislodged between 1 and 7 times either by the infant or the nursing staff despite great care being taken to fix the tube and to restrain the arms of the infant; 'spontaneous' return of the tube tip to the stomach was generally due to dislodgement during suctioning of the pharynx. Two infants (1.12 kg, 27 weeks' gestation; 0.84 kg, 26 weeks' gestation) who were mask-ventilated for apnoeic attacks had repeated NJ tube dislodgements. Both these infants died and at necropsy there was evidence of pulmonary milk aspiration. The combination of mask ventilation and NJ feeding was therefore stopped in our nursery. We did not routinely change NJ tubes, and tubes which were left *in situ* for at least 60 days showed no sign of stiffening, unlike the polyvinylchloride tubes which stiffen within 3 or 4 days. There was no case of bowel perforation or necrotising enterocolitis, but one infant (0.85 kg, 30 weeks' gestation) had a torrential gastrointestinal haemorrhage after 15 days of NJ feeding and subsequently developed an oesophageal stricture requiring a prolonged time in hospital.

In infants of 30 weeks' gestation or less, the sodium content of currently available standard infant formulae (for example, Cow and Gate Premium; 1 mmol/100 ml) was inadequate because of renal losses owing to tubular immaturity.⁴ Supplements of sodium (3-5 and sometimes as much as 9 mmol/kg per 24 hours) were required to prevent hyponatraemia until the infant was about 34 weeks' corrected age.

Continuous NJ feeding did offer an advantage over intermittent nasogastric feeding in the mean time ($\pm$ SD) spent by nursing staff in feeding-related activities (NJ 19.7 $\pm$ 5.8; nasogastric 95.7 $\pm$ 25 minutes a baby per 24 hours; $P < 0.001$). It was a fairly safe technique using the commercially available preweighted silicone rubber tube, and made small demands on financial resources and nursing time.

References

- Dryburgh E. Transpyloric feeding in 49 infants undergoing intensive care. *Arch Dis Child* 1980; **55**: 879-82.
- Whitfield M F. Some effects of nutrition on growth and metabolism in the newborn infant. MD thesis, University of Edinburgh 1981.
- Schaffblass E, Kuhns L R, Wyman M L. Gastric air insufflation as an aid to placement of oroduodenal tubes. *J Pediatr* 1976; **89**: 954-5.
- Sulyok E, Varga F, Gyorgy E, Jobst K, Csaba I F. On the mechanism of renal sodium handling in newborn infants. *Biol Neonate* 1980; **37**: 75-9.

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Dr Dryburgh comments:

It was interesting to learn about the experiences with transpyloric feeding in Sheffield. I agree that the Vygon silicone rubber tube (weighted at the tip with 1 cm of stainless steel) is not suitable for babies below 750 g