

IMAGES IN NEONATAL MEDICINE.....

Gastric pneumatosis/interstitial emphysema of the stomach

This entity was first described in 1889 by Fraenkel in adults.¹ It is rare and primarily a radiological diagnosis. It has been seen in preterm and term babies, and infants up to 9 months of age. In adults, infection with gas forming organisms (*Escherichia coli*, *Proteus*, *Clostridium welchii*, and *Staphylococcus aureus*), gastric outlet obstruction, and instrumentation are the more commonly reported associations. In newborn babies, it is usually associated with widespread necrotising enterocolitis.

We came across this radiological finding in a 32 week gestation baby who became acutely unwell on day 4. Enteral feeds had been started on day 2. Abdominal radiographs also showed widespread pneumatosis intestinalis (fig 1). Blood cultures were negative, but umbilical and ear swabs grew *E coli*.

This radiological sign may indicate other conditions that require urgent surgical management, such as hypertrophic pyloric stenosis² or duodenal stenosis.³ In these cases it has been suggested that gas enters the intramural space through mucosal tears produced from overdistention of the stomach. Gastric decompression usually leads to rapid clearance (16–20 hours) of this radiological finding² and good recovery after appropriate surgical management. At operation on day 10 in our patient, there were multiple areas of small intestinal necrosis, but the stomach looked normal. Gastric pneumatosis has also been reported secondary to intramural malplacement of a feeding catheter⁴ and after cardiac surgery in the newborn period.⁵ The proposed cause in the latter scenario is temporary hypoperfusion of the gastrointestinal mucosa during cardiopulmonary bypass and ischaemic injury to the stomach causing mucosal disruption.

M Bajaj, A L Ogilvy-Stuart

Rosie Hospital, Addenbrooke's NHS Trust,
Cambridge CB2 2QQ, UK; monikabajaj29@
hotmail.com

doi: 10.1136/adc.2003.034272

REFERENCES

- 1 Henry GW. Emphysematous gastritis. *AJR Am J Roentgenol* 1952;68:15–18.
- 2 Lester PD, Budge AF, Barnes JC, et al. Gastric emphysema in infants with hypertrophic pyloric stenosis. *AJR Am J Roentgenol* 1978;131:421–3.
- 3 Gupta A. Interstitial gastric emphysema in a child with duodenal stenosis. *Br J Radiol* 1977;50:222–4.
- 4 Mandell GA, Finkelstein M. Gastric pneumatosis secondary to an intramural feeding catheter. *Pediatr Radiol* 1988;18:418–20.
- 5 Taylor DR, Tung JY, Baffa JM, et al. Gastric pneumatosis following cardiac surgery. *Eur J Paediatr* 2000;159:553–4.



Figure 1 Abdominal radiograph showing gastric pneumatosis.