Large Gastric Perforation In A Neonate
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Citation

Abstract
Large gastric perforation in a neonate is very rare condition. We are reporting such a condition in a two-day-old male child. This condition requires urgent surgical intervention. We did emergency laparotomy with suturing of large gastric perforation in two layers.

INTRODUCTION
Large spontaneous gastric perforation is a very rare condition with only about 200 cases reported in the literature (1). The condition entails very high mortality. Its pathogenesis is greatly debated.

Congenital absence of gastric wall musculature (2), stress ulceration secondary to neurogenic difficulties (3), and ischaemia of the gastric wall secondary to vascular shunting (4) have been proposed as aetiological factors.

We report a case of large gastric perforation in a two-day-old child seen by us.

CASE REPORT
A two-day-old child was admitted in the paediatric ward with complaints of dyspnoea and abdominal distention. There was no history of vomiting and the baby had passed meconium. He had had a full-term normal vaginal delivery with a birth weight of 2.75kg. There was birth asphyxia when he was born.

After 5-6 hours, the patient developed complaints of abdominal distention. When he came to hospital, he was in respiratory failure and in shock with a respiratory rate of 52 per minute and a pulse rate of 160 per minute. Immediate endotracheal intubation was done and he was kept on ventilatory support and management of shock with vasopressors and plasma expanders. The abdomen was markedly distended with absent bowel sounds and liver dullness was masked. The rest of the examination was normal.

On investigation, haemoglobin was 15 g/dl and TLC 12000/cumm (P75, L20, M3, E2). Abdominal x-ray (standing) showed free gas under both domes of the diaphragm. The viscera were displaced medially producing the typical “saddle bag” appearance (fig.1). Chest x-ray, serum creatinine, blood urea and serum electrolytes were within normal limits.

Figure 1
Fig. 1: Abdominal x-ray (erect) showing free air under the diaphragm. The abdominal viscera are displaced medially producing the “saddlebag” appearance.

Urgent exploratory laparotomy was performed by upper transverse incision. This revealed a large gastric perforation of about 3x1cm with ragged edges on the anterior wall. The surrounding stomach wall was ischemic (fig. 2).
Figure 2
Fig. 2: Large gastric perforation in the anterior wall of the
stomach.

Excision of the ischemic edges was done and the perforation
was closed with silk 3-0 in two layers.

Postoperatively, the patient was kept on ventilatory support
and management of shock with vasopressors and plasma
expanders. Nasogastric aspiration was done two-hourly.
Unfortunately, we lost our patient on the 8th postoperative
day due to respiratory failure and shock.

DISCUSSION
Spontaneous gastric perforation as reported earlier is more
common in the preterm baby, most commonly occurring
between the 2nd and 7th day (5,6). The highest reported
incidence of rupture is on the 3rd day of life (6). Our baby
was a full term baby and the perforation had occurred on the
2nd day of life. Sudden abdominal distension and respiratory
distress have been reported as predominant symptoms (1,5).
Those commonly observed include prematurity, respiratory
distress at birth, asphyxia and resuscitation, premature
rupture of membranes and breech, cesarean or twin delivery,
in decreasing order of frequency.

Most commonly the perforations have been linear tears seen
on the greater curvature, usually high and measuring
between 0.5 and 8 cm (1,5). In the present case the
perforation was about 3x1 cm in size. It was located on the
anterior wall of the stomach.

Prompt surgical intervention with repair of gastric tear is the
recommended management. Any delay in surgery will result
in a higher mortality (8,9).

The pathogenesis of spontaneous gastric perforation is much
debated (2-4,10-12). Gastric tissue ischemia secondary to
hypoxia is one plausible explanation (4,11). During severe
hypoxic stress there is selective shunting of blood away from
the splanchnic vascular bed leading to vascular damage and
perforation. This was the probable sequence of events that
operated in our patient.

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