

Large Gastric Perforation In A Neonate

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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 8cm (1,5). In the present case the perforation was about 3x1cm 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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