

NEONATAL GASTRIC PERFORATION (CASE REPORT)

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Gazi Medical Journal 6 : 153-154, 1995

SUMMARY : *Perforation of the stomach is a rare but serious problem in the neonatal period. It occurs characteristically within the first seven days of life. Neonatal gastric perforation (NGP) is usually diagnosed at operation. Mortality rate is high and surgical intervention is urgent. Absence of gastric musculature, stress ulceration, peptic ulcer and ischemia of the gastric wall secondary to vascular shunting and some mechanical disruptions have been proposed as etiologic factors. In this report we present a 3 day-old female neonate with metabolic stress induced gastric perforation.*

Key Words : *Gastric Perforation, Neonatal Period.*

INTRODUCTION

Perforation of the stomach is a rare but serious problem because of the high mortality rate (up to 70%) in the neonatal period (4). Neonatal gastric perforation (NGP) occurs characteristically within the first seven days of life and is usually diagnosed at operation (2).

CASE REPORT

A 3 day-old female neonate was referred to Pediatric Surgery Department of Selçuk University Medicine Faculty by a pediatrician because of abdominal distention and bilious vomiting of 6 hours duration. pregnancy was normal but vacuum extraction was performed during the delivery. Birth weight was 4100 grams and the first and the fifth minute Apgar scores were 7 and 8, respectively. Although she was fed with breast milk, she had convulsions caused by hypoglycemia and hypocalcemia at the end of the first day. She was managed

with intravenous 10 % calcium gluconate (200 mg/kg/day, divided q6h) and 10 % dextrose infusion (6-8 mg/kg/min). After abdominal distention and bilious vomiting, on the third day, she was referred to us. Pneumoperitoneum was seen on the abdominal roentgenogram (Fig 1). The patient was then operated immediately with the diagnosis of intestinal perforation. Large amounts of fluid in the peritoneal cavity and a round shaped perforation (2 mm in diameter) on the greater curvature of the anterior wall of the stomach was found. Gastric perforation was repaired primarily. On the 7th day postoperatively, the patient was discharged from the hospital.

DISCUSSION

The incidence of NGP is 1 in 2900 live births (0.34 per 1000) and males are affected four times more than females (5). Clinical presentations of NGP are poor feeding, abdominal distention and bilious vomiting. NGP is frequently seen on the ante-



Fig - 1 : Pneumoperitoneum is clearly seen on the upright abdominal roentgenogram of the neonate.

rior wall of the stomach, near by the greater curvature (2).

NGP is a multifactorial disease. Prematurity and low birth weight are known as risk factors. Absence of gastric musculature or congenital muscular weakness, increased hyperacidity (stress ulceration or peptic ulcer), insertion of stiff nasogastric tubes, compression of fluid-filled stomach during difficult deliveries, overdistention of the stomach during vigorous resuscitation with the ambu mask are considered as etiologic factors in the literature (1, 3, 4, 7). Increasing of the intragastric pressure was considered as the most important one (1). However, recent studies suggest that ischemia of the gastric wall due to vascular shunting because of perinatal hypoxia and/or hypovolemia plays the major role in NGP (3, 6). Beside these any other stress states may cause ischemia, and persistence of the ischemic insult leads to transmural necrosis and perforation (3, 4).

The only possible reason of NGP in the present case is metabolic stress. Location and macroscopic appearance of the lesion are predictable for the reason of perforation. Lesions are mostly linear tears in the mechanical perforations (6). But stress induced perforations are round-shaped and approximately 1 or 2 millimeters in diameter (6). In English literature, stress induced NGP cases are rare (1). If gastrointestinal symptoms like vomiting and abdominal distention occur in a neonate who has major metabolic stress, attention should be paid to the possibility of the gastric perforation.

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