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**CASE REPORT**

# Postoperative Spontaneous Ileal Perforation in a Case of Infantile Hypertrophic Pyloric Stenosis

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## ABSTRACT

Postoperative spontaneous intestinal perforation is a rare entity. A 40-days old infant operated for infantile hypertrophic pyloric stenosis developed abdominal distension secondary to pneumoperitoneum. At surgery, spontaneous perforation of ileum was found. The perforation was repaired with uneventful postoperative course.

**Key Words:** *Infantile hypertrophic pyloric stenosis, Postoperative spontaneous intestinal perforation, Spontaneous intestinal perforation*

## INTRODUCTION

Infantile Hypertrophic pyloric stenosis (IHPS) is a well known entity and dealt effectively with pyloromyotomy. Development of pneumoperitoneum after pyloromyotomy is attributed to missed iatrogenic mucosal breach.[1] However, spontaneous perforation of small bowel is rarely thought in such a scenario. Herein, we report a case of spontaneous perforation of ileum in a case of IHPS after pyloromyotomy.

## CASE REPORT

A 40-day-old male infant presented with projectile, non-bilious vomiting since 2nd week of life. Clinical and sonological diagnosis of IHPS was made. Fluid resuscitation and optimization for metabolic derangements was done. Open Ramstedt pyloromyotomy was performed in a standard way. Immediate postoperative recovery was uneventful. Next day before discharge, the baby developed reluctance to feed and mild abdominal distension. Considering postoperative ileus, the baby was kept NPO with nasogastric tube insertion. Serum electrolytes were repeated but turned out in normal range.

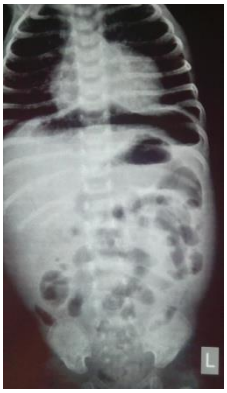

**Fig 1: X-ray abdomen erect, showing pneumoperi-toneum**

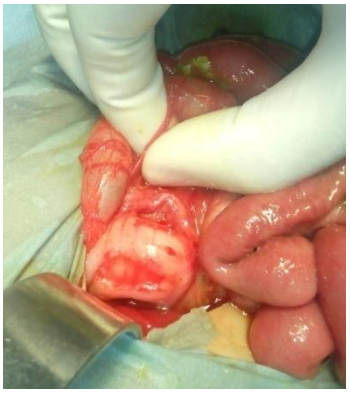

**Fig 2: Intraoperative figure showing intact pyloro-myotomy**

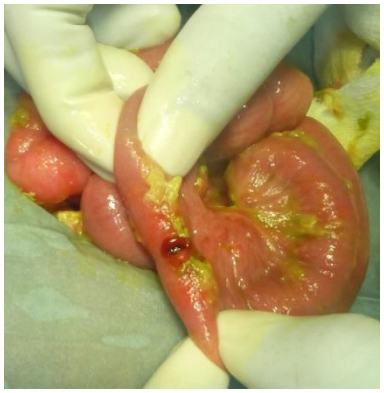

**Fig 3: Intraoperative figure showing small bowel perforation and fecal staining of the bowel**

Next day, X-ray abdomen erect was performed, owing to worsening of abdominal distension, which showed significant pneumoperitoneum (fig 1). Considering a missed mucosal breach while performing pyloromyotomy, emergent reoperation was performed which divulged fecal peritonitis. The previous pyloromyotomy was intact (fig 2) whereas, an intestinal perforation was encountered at the level of proximal ileum (fig 3). Rest of the bowel was normal although fecal stained at points. The margins of the perforation was refreshed and intestinal perforation was repaired. Postoperative recovery was uneventful. The baby was discharged in good clinical condition on attaining full oral feeds. At follow-up the baby was thriving well.

## DISCUSSION

Spontaneous intestinal perforation (SIP) is usually reported in low birth weight neonates, and rarely in children or adults.[2,3] SIP is generally an isolated small perforation involving any part of gastrointestinal tract such as stomach, small intestine and large intestine in absence of pathological condition of rest of the bowel.[4] Various factors have been attributed as risk factors for the development of SIP such as patent ductus arteriosus and treatment with indomethacin, preceding history of fever and treatment with nonsteroidal anti-inflammatory drugs (NSAIDS), and ileus etc.[5,6] Gorden et al,[7] documented development of hypertrophic pyloric stenosis and SIP owing to deficiency of nitric oxide as a result of deficient nitric oxide synthase (due to administration of glucocorticoids/ indomethacin) in stomach and ileum, respectively. This study opened up new avenues for research into the etiology of both IHPS and SIP in human beings. Similarly Chhina et al,[8] reported a case of SIP in a preterm neonate which later developed IHPS (40 days of life).

Majority of the cases of SIP occurs preoperatively. Zhang et al,[9] reported 3 cases of SIP after surgery for congenital cardiac lesions. They stressed upon intraoperative hypoperfusion as a risk factor for development of SIP. In the Index case, since pyloromyotomy was very straight forward and simple procedure and did not require small bowel evisceration; thus, hypothermia, hypoperfusion, and iatrogenic causes were unlikely. Postoperative ileus may be speculated a risk factor for SIP in the index case. An intraoperative iatrogenic cautery injury can also be speculated as etiology in our case, however, since small bowel is usually not eviscerated into the wound and surgical wound itself is too small that even pylorus is delivered with some difficulty, thus making this possibility less likely. Overall mortality is 20% which is even more in case of premature neonates.[4]

In conclusion, SIP in a postoperative period is rarely reported entity and may mimic missed iatrogenic mucosal breach in case of IHPS.

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