

# IDIOPATHIC SPONTANEOUS POSTERIOR GASTRIC PERFORATION IN A PRESCHOOL CHILD - A RARITY

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## ABSTRACT

*A three year old female presented in casualty with history of abdominal pain, vomiting abdominal distension and dyspnoea. The patient was in shock and there was abdominal guarding all over. History was of a very short duration. Abdominal X- ray showed massive gas under diaphragm. Patient was explored which revealed a posterior large gastric perforation. The rest of organs showed no obvious abnormality. The biopsy was inconclusive, serum gastrin was normal with no hematological abnormality. The post operative period was uneventful.*

**Key Words:** Idiopathic, Gastric perforation, Preschool

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## INTRODUCTION

Gastric and duodenal perforations form a substantial portion of the surgical department in any medical college hospital. Well documented aetiological factors have been identified for gastric perforations. Gastric perforations in paediatric age groups particularly preschool children are rare. They can be demonstrated in infants with risk factors like prematurity, ulcers or along with other disorders. However it is rare to find a perforated gastric perforation in a preschool child with no demonstrable aetiology. We would like to submit here that this child had no preexisting ulcer, no pancreatic, vascular, endocrinal cause. The pathology also was not contributory. With such a large perforation there ought to be some inherent cellular deficiency that needs to be investigated in prospective cases in order to overcome this gray area.

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## CASE REPORT

This is a case of a 3year old female who presented in casualty with history of pain in abdomen & distension, vomiting since one day. There were no similar complaints in the past. On examination the patient was in shock. Dyspnoea was present. Per abdominal exam revealed obliteration of Liver dullness, with tenderness all over. Erect abdominal x-ray showed massive gas under both domes of diaphragm (Figure 1).

By the time patient was posted for exploratory laparotomy the patient was gasping & had to be intubated. After risk consent the child was explored. The peritoneal cavity contained dark colored fluid which was culture negative. A 3cm perforation was identified over the posterior surface of stomach along the greater curvature (Figure 2). The stomach was of normal size with no evidence of ulcer or induration at site of perforation. The rest of organs were normal. The perforation was sutured with omental patch. Abdomen was sutured with drains. Biopsy findings were not contributory.

## DISCUSSION

Gastric perforation is a potentially fatal condition that is rare in infants and children. Most case reports in the paediatric population are of neonates<sup>1</sup> or in patients with various associated risk factors including prematurity, ischaemia, trauma or ulcers<sup>2</sup>.

The clinical manifestations include severe abdominal pain, distension, vomiting and respiratory distress. Vomiting is an inconsistent feature. Heterotaxy has been reported as one of the

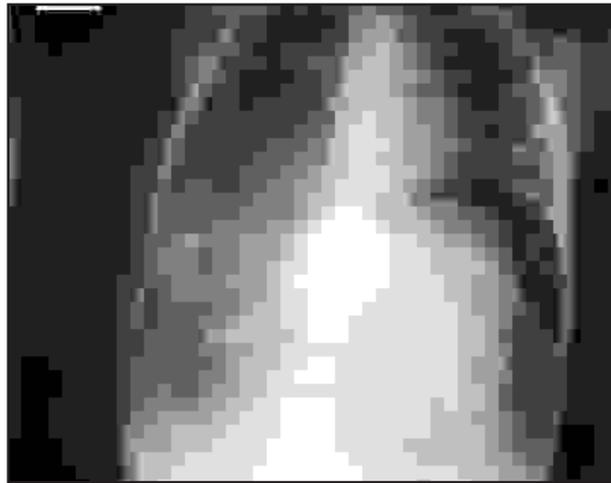
causes of gastric perforation<sup>3</sup>. Similarly Tetralogy of Fallots is reportedly associated with gastric perforations<sup>4</sup>. Ulcers in gastroduodenal region though rare, occasionally present as perforation which can be missed. Eosinophilic perforation of intestine & stomach has been reported but is associated with peripheral eosinophilia<sup>5, 6</sup>. This case did not have any evidence of gastric ulcer, the serum gastrin was normal. There was no history of ingestion of NSAID, steroids and the eosinophilic counts were normal.

In the discussion of gastric perforations, neonatal cases are a distinct entity from perforation in older infants and children. Neonatal perforation is generally thought to be ischaemic, traumatic or prematurity<sup>7</sup>. Spontaneous neonatal perforations occur in about 1 in 2900 live

births. One hypothesis of etiology is a defect of normal musculature in the stomach resulting in focal perforation. Deficiency of interstitial cells of Cajal leading to gastric atony may lead to gastric perforation.

Rapunzel syndrome (Trichobezoars) has been a cause of gastric perforation in childhood<sup>8</sup>. The presented case demonstrated no such pathology. With a history of one day in a 3 year old child with no predisposing factors the demonstration of a large 3cm perforation of stomach in posterior wall of the body is unique and unusual. The large perforation could probably be explained by a lack of I.C.C (Interstitial Cell Of Cajal) which was demonstrated in postmortem exam of 7 neonates<sup>9</sup>, which could not be demonstrated in this case.

**Figure 1: Massive gas under both domes of diaphragm**



**Figure 2: Gastric perforation**



**(a)**



**(b)**

This case presents as a unique case of gastric perforation of unknown etiology in a 3-year old child. Spontaneous gastric perforation has been reported in otherwise healthy infants in the first week of life. Although stress & prematurity are common causes, no other causes have been seen in 20% of cases & no cases reported in preschool children. After ruling out the available etiologies of perforation a conclusion of spontaneous perforation of stomach was arrived to. As no predisposing causes could be identified it is addressed to as Idiopathic perforation of stomach.

### CONCLUSION

This case suggests that although causes of perforation are well documented there still remain some cases where the aetiological factors are not known and all gastric perforations need to be histologically well evaluated particularly in paediatric age group.

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