CASE REPORT

# A Rare Case of an Internal Hernia of Small Bowel Masquerading as Pneumoperitoneum

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## Abstract

Free gas under diaphragm is a very significant X-ray finding seen among patients of acute abdomen coming to the ER of any hospital. This finding usually suggests perforation of a hollow viscus and requires urgent surgical intervention. But there are some pathologies which mimic this important sign thereby necessitating the surgeon to always take a holistic view and approach any potential laparotomy with clinical suspicion. We have presented such a case seen in our emergency department wherein an internal herniation of bowel loops presented with pseudopneumoperitoneum.

**Keywords:** Chilaiditi syndrome, Internal herniation, Pseudopneumoperitoneum

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## Introduction

Internal hernias occur as a result of protrusion of an internal organ into a foramen in the abdominal cavity. They are associated with pain, intestinal obstruction and gangrene. Pseudopneumoperitoneum describes any gas within the abdominal cavity that masquerades as free intraperitoneal gas or pneumoperitoneum when it is in fact contained within an organ. We present a case where internal herniation of small bowel lead to false diagnosis of pnemoperitoneum and laparotomy

## Case Description

A fifty-year-old male patient presented to our emergency with the chief complaints of pain abdomen for the last 3 days which was insidious in onset, dull aching in character, progressive in nature and associated with vomiting and abdominal distension for 3 days, both of which are increasing in severity.

*O/E*: Abdomen was tense, distended and tender. No organomegaly. Hernial sites were normal. Bowel sounds were sluggish. Patient was not passing flatus or stool.P/R: Fecal staining was present. No ballooning.

On nasogastric aspiration, semi-digested food was present.

Patient's chest X-ray showed air under diaphragm (Fig. 1).

USG showed minimal free fluid. Patient was dehydrated and had tachycardia and reduced blood pressure. After stabilizing the patient, decision was made to do an emergency laparotomy.

Intraoperative patient was found to have dilated bowel loops. A loop of small bowel was found to be present above the liver herniating through adhesions between liver and posterior surface of anterior abdominal wall (Fig. 2).

This internal hernia was causing obstruction leading to dilated bowel loops. Adhesions were removed. Bowel was reduced. No signs of gangrene were present. No perforated bowel loops were seen. Bowel was decompressed and abdomen closed in layers. Postoperative patient improved symptomatically.

## Discussion

Air under the diaphragm (pneumoperitoneum) seen on plain radiograph usually signifies a perforated viscus. This usually represents a surgical emergency. However, not all air under the diaphragm seen on plain radiograph represents a surgical emergency.

*Causes of pseudopneumoperitoneum include*:

- Basal linear atelectasis
- Pneumomediastinum (mimicking cupola sign)

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**Fig. 1:** Flat plate abdomen showing free gas under Diaphragm with multiple air fluid levels

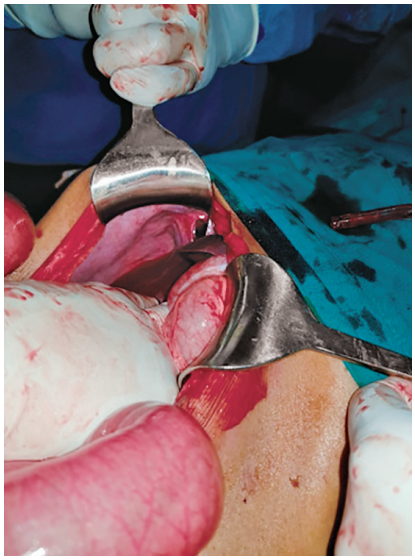

**Fig. 2:** Intraoperative picture showing internal herniation of small gut loops

- Chilaiditi syndrome
- Diaphragmatic undulation
- Gas within skin folds
- Biliary, portal vein or bowel wall gas
- Fat within the subdiaphragmatic space or the ligamentum teres

In our case, it was an internal hernia caused by adhesions masquerading as a pneumoperitoneum. A preoperative diagnosis was missed as the small bowel loops were involved, so no haustrations were present. Also the loops were grossly dilated leading us to make out only the bowel gas which lead us to make a diagnosis of pneumoperitoneum.

## Conclusion

Internal hernia is a rare cause of intestinal obstruction. It is usually noted occurring through normal foramen or through mesentery. This case illustrates that pneumoperitoneum does not always means a case of perforation and other rare diagnosis such as chilaiditi syndrome or chronic intestinal pseudo-obstruction also should be kept in mind before deciding on laparotomy.

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