

# The Pneumoperitoneum Mimicker

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## INTRODUCTION

Chilaiditi's Sign refers to a radiological finding of colonic interposition between the liver and the right diaphragm. This same finding when accompanied by symptoms is known as Chilaiditi Syndrome, a rare disorder causing a broad array of gastrointestinal symptoms such as nausea, vomiting, abdominal pain and in the worst cases, bowel obstruction.

## CASE PRESENTATION

This is the case of a 73-year-old male with a medical history of uncontrolled hypertension and dyslipidemia who presented to the emergency department with an intense frontotemporal headache, nausea, and vomiting that started during the morning. The patient was diagnosed with a hypertensive emergency with an intracerebral hemorrhage. The patient was evaluated by Neurosurgical Services who deemed no management, and the patient was subsequently admitted to the Medicine ward.

## Hospital Course

During hospitalization, the patient's neurological deterioration progressively improved, but suddenly, the patient started to complain of generalized abdominal pain and nausea. The pain was accompanied by an increased respiratory rate, which prompted further imaging workup. Arterial blood gases were remarkable for respiratory alkalosis. A portable chest x-ray revealed findings concerning air under the diaphragm as seen as intestinal perforation (pneumoperitoneum). Emergent abdominal CT was performed which surprisingly showed no evidence of bowel obstruction or perforation but was remarkable for interposition of the colon between the liver and right hemidiaphragm. Given imaging findings with associated symptoms, the patient was diagnosed with Chilaiditi's Syndrome.

## IMAGING STUDIES



IMAGE A CXR



IMAGE B



IMAGE C

## DISCUSSION

Chilaiditi's Syndrome is a rare disorder that can provoke abdominal pain, nausea, vomiting or bowel obstruction. In some cases, having Chilaiditi's has also been associated with breathing problems. Our case raises awareness of Chilaiditi's Syndrome as an important differential diagnosis of findings of air under the diaphragm since it may mimic pneumoperitoneum. Mistaking Chilaiditi's sign for pneumoperitoneum, can result in unnecessary surgery and morbidity.

## Learning Points:

Diagnosis of Chilaiditi's syndrome is based upon clinical findings and signs observed on plain radiographs.

CT scan of the abdomen can enable clinicians to differentiate among subphrenic fluid, true pneumoperitoneum, and air within the bowel lumen. Chilaiditi Syndrome usually resolves with conservative management.

## REFERENCES

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