

UNCOMMON CAUSE OF ABDOMINAL SYMPTOMS IN A PATIENT WITH
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ABSTRACT

Pneumatosis Intestinalis (PI) is an exceptional disorder caused by an accumulation of gas within the small or large intestine's mucosa. The individuals who persist a risk marker for Chronic obstructive pulmonary disease or Bronchial Asthma more likely to experience Pneumatosis Intestinalis. To provide effective management and medical treatment, it's important to understand each individual's unique circumstances and use expert medical approaches. Here we present a rare instance of PI in a 78-year-old woman with a 20-year track record of bronchial asthma.

KEYWORDS: The individuals who persist a risk marker for Chronic obstructive pulmonary disease or Bronchial Asthma more likely to experience Pneumatosis Intestinalis.

INTRODUCTION

Pneumatosis Intestinalis is an intestinal disease that causes air to build up intramurally in the bowel wall. The nationwide population has an incidence rate of 0.03%. Pneumatosis Intestinalis can affect individuals of any age group, but elderly individuals are particularly vulnerable than young adults and newborns. Pneumatosis Intestinalis is also known as intraluminal bowel gas, pneumatosis coli, or pneumatosis cystoides intestinalis. Pneumatosis Intestinalis is often diagnosed using abdominal radiography and computed tomography. Pneumatosis Intestinalis along with asthma is extremely rare.^[1]

There are two significant kinds of Pneumatosis Intestinalis: primary (idiopathic) and secondary Pneumatosis Intestinalis.^[2] Symptoms of Individuals with small pneumatosis Intestinalis include vomiting, diarrhea, loss of weight, and pain in the abdomen, whereas symptoms of large pneumatosis Intestinalis causes abdominal pain, distension, and constipation in individuals. Primary PI comprises 15% of all cases without underlying circumstances. Secondary causes include gastrointestinal and pulmonary issues, which account for 85% of all cases in general.^[3]

The correlation between respiratory illnesses and pneumatosis remains unclear, but it is thought to entail a number of variables, including prolonged inflammation, changes in mucosal barrier function, and changes in

motility in the gastrointestinal tract.

CASE REPORT

A 78 year old woman with the suspicion of intestinal perforation admitted under the gastro surgery department with complaints of abdominal pain, abdominal distension, obstipation and vomiting for 5 days. The patient has a past history of systemic hypertension for 4 years, bronchial asthma for 20 years, cardiovascular disease for 5 years and COPD for which she was not taking any treatment. An emergency CECT abdomen showed Pneumoperitoneum. Air was observed inside the mesentery also. There was a long segment (>30 cm) ileal intestinal loop, which was dilated with pneumatosis coli, suggestive of probable gangrene. She underwent emergency laparotomy and decompression of bowel. Intraoperatively the small bowel loops were found to be grossly dilated. There were pockets of air in the mesentery. However no evidence of gangrene was seen. Following the procedure, she was transferred to the intensive care unit and the patient was kept under NPO. Total parenteral nutrition was used to maintain nutrition. Dyselectrolytemia corrected. After the surgery, the patient had prolonged abdominal distension. CT abdomen was suggestive of paralytic ileus. She was managed with prokinetics- T. Prucalopride and later T. Domperidone were administered. Her COPD was managed in consultation with the pulmonologist with inhaled bronchodilators and steroids. She became symptomatically better with conservative management

and was discharged after 2 weeks.



CECT Abdomen showing Pneumatosis Intestinalis.

DISCUSSION

Pneumatosis Intestinalis (PI), defined as gas in the bowel wall, often first identified on abdominal radiographs or computed tomography (CT) scans. Pneumatosis Intestinalis occurs in 2 forms. Primary pneumatosis Intestinalis (15% of cases) is a benign idiopathic condition in which multiple thin-walled cysts develop in the submucosa or subserosa of the colon. The secondary form (85% of cases) is associated with obstructive pulmonary disease, as well as with obstructive and necrotic gastrointestinal disease. The disease is seen in other conditions, including chronic obstructive pulmonary disease, connective tissue disorders, infectious enteritis, celiac disease, leukemia, amyloidosis, and Autoimmune deficiency syndrome. According to Pulmonary Theory, alveolar rupture may result in air dissection along vascular pathways in the mediastinum. Air dissection then proceeds caudally (toward the tail end of the body) to the retroperitoneum (the region behind the abdominal cavity). Finally, the migrating air settles within the bowel mesentery (the supporting tissue that connects the intestines to the stomach). Our patient had a long history of COPD and bronchial asthma for 20 years, which is a risk factor for PI and it was suspected that bleb rupture caused the gas to break the gut wall, resulting in cyst formation. Treatment for those with severe symptoms includes diet, antibiotics, or the use of hyperbaric oxygen. In our case, the patient had a lengthy history of COPD and BA. We assume that the intense cough accompanied by asthma may have caused a rapid increase in intraluminal pressure in the intestinal wall, making the mucosa vulnerable to mechanical injury and resulting in PI. For patients with minor symptoms, antibiotics and an elemental diet may be considered. In the case of moderate to severe symptoms, oxygen therapy, antibiotics, and an elemental diet are employed. Patients with prolonged symptoms can be treated with hyperbaric oxygen therapy. Surgery is reserved for patients who continue to have symptoms despite conservative management or who develop intestinal obstruction or

perforation as a result of PI.

The take home message of this report is that when an elderly patient with a chronic pulmonary condition, such as COPD and BA, presents with abdominal distension, pain and vomiting, PI should be thought of.

CONCLUSION

Elderly individuals with lung diseases like COPD and bronchial asthma are more susceptible to develop pneumatosis Intestinalis.

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CONFLICTS OF INTEREST

There are no conflicts of interest.

ABBREVIATION

PI- Pneumatosis Intestinalis.

BA- Bronchial Asthma.

COPD- Chronic Obstructive Pulmonary Disease.

CECT- Contrast-enhanced computed tomography.

NPO- Nothing by mouth.

HRCT- High-resolution computed tomography.

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