Surgical Emergency or Benign Finding: Presentation of Pneumatosis Cytoides Intestinalis

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Introduction

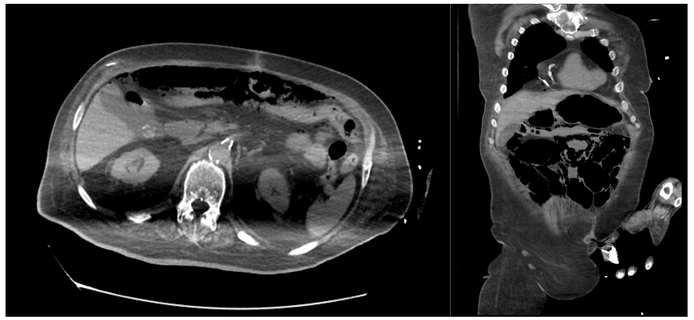
Pneumatosis intestinalis (PI) is a relatively common finding on computed tomography (CT) scans, characterized by the presence of air pockets or gas within the tissues of the body. For surgeons, this finding is usually associated with concern for compromised bowel and need for surgical intervention. In this poster, we will explore the prevalence and clinical implications of benign pneumatosis, and the need for increased awareness of this condition among surgical teams. With this case review, we aim to highlight the importance of identifying and managing pneumatosis from a surgical perspective. By doing so, we can improve patient outcomes and minimize the risk of complications during and after surgery.

Case Discussion

79yo M who presented to our hospital with complaint of abdominal pain. He had a prior medical history of atrial fibrillation, COPD, CHF, and multiple prior abdominal surgeries. His most recent surgery was an exploratory laparotomy about two months prior. More recently, he was admitted two weeks prior for a small bowel obstruction.

In the ED, he was afebrile, tachycardic around 108 with a BP of 98/59. He also had a WBC of 19.9.

His abdomen was noted to be very tender with guarding and rebound tenderness. Additionally, a CT scan was obtained



in the ED showing extensive pneumatosis and free air. With these concerning findings, he was brought emergently to the operating room. In the operating room, an exploratory laparotomy was performed and while extensive pneumatosis was identified, no perforation or other abnormal pathology was noted. He was monitored in the ICU and able to be discharged about a week after the operation with no further complications during his admission or identifiable cause for his initial presentation.

This was the patient's third exploratory laparotomy in two years. His prior presentations were similar with complaints of abdominal pain and findings of free air or PI. While his initial presentation showed many signs of an urgent surgical case, his history of negative ex laps with other risk factors for PI may be of consideration.

The exact cause of PI is still debated. Most causes are believed to be from bowel ischemia, bacteria in the GI tract, gas from within the bowels, or alveolar air from the pulmonary system. Pulmonary considerations such as COPD are thought to contribute by rupture of pulmonary blebs which can track air from the mediastinum to retroperitoneum. The air can cause an inflammatory reaction and form air cysts.

Our patient suffered from COPD and was a biPAP user at night. His multiple presentations and findings on ex lap are consistent with the theory that a pulmonary source is the source of his PI. Due to the concern of free air and abdominal pain, he underwent multiple open surgeries. Understanding the possibility of benign pneumatosis and his prior history, close monitoring and conservative management may be an appropriate choice.

Conclusion

The exact cause of PI is still debated. This case highlights the importance of understanding there are both life threatening and benign causes. Consideration of a patient's medical history as well as their presentation are important to consider which action to take. Patients with a unclear picture who are showing signs of instability may require laparoscopy or open surgery, while other patients may be closely monitored.

References

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