

## Clinical Image

### Pneumatosis Cystoides Intestinalis in the Setting of Clindamycin Use: An Association or a Coincidence?

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A 60-year old male with a past medical history of hemorrhoids presented with persistent watery diarrhea of 4 weeks duration associated with left lower quadrant abdominal cramps, bloating, and two episodes of hematochezia. He was prescribed clindamycin 6 weeks ago for dental infection and his symptoms started after taking clindamycin for 1 week. He denied fever, chills, nausea, vomiting, weight loss or change in appetite. Vitals were stable and physical exam was significant for mild tenderness in the left lower quadrant. CT scan of the abdomen showed air-filled cysts involving the proximal to mid sigmoid colon consistent with pneumatosis cystoides intestinalis (PI) without pneumoperitoneum (Figure 1). Stool Clostridium difficile toxin, stool microscopic exam and culture were negative. Colonoscopy showed multiple air-filled cysts of various sizes without any active bleeding (Figure 2). He was managed conservatively without antibiotics and diet was advanced gradually as tolerated. A repeat colonoscopy 3 months later showed mild improvement but abdominal pain and diarrhea had resolved. He was advised for a follow-up colonoscopy in 1 year.

PI signifies the presence of gas within the wall of the small or large intestine. Its presentation can range from an incidental finding in an asymptomatic patient which can resolve spontaneously to a severe case of intestinal necrosis which may require surgery.[1]

The etiology of PI seems to be multifactorial although the exact cause is unknown. Many theories have been proposed as follows:

Mechanical theory – states that increased pressure due to bowel obstruction or emphysema can cause gas to dissect into the bowel wall from either the intestinal lumen or the lungs via the mediastinum.

Bacterial theory – the gas found within the bowel wall may be due to gas-forming bacteria which then enters the submucosa through mucosal rents or increased mucosal permeability.

Biochemical theory - gas produced by fermentation of carbohydrates by the luminal bacteria may be forced directly through the mucosa trapping it in the submucosa.

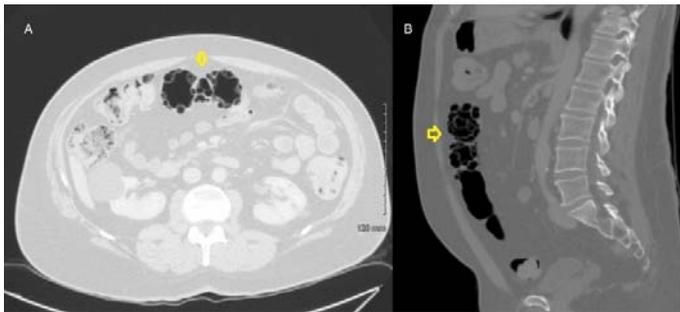
Drug-induced theory – due to loss of mucosal integrity allowing intraluminal gas to escape into the bowel wall.[2]

Complications related to PI include bowel obstruction, volvulus, intussusception, hematochezia, and pneumoperitoneum if the subserosal cysts rupture. Mild cases of PI can be managed conservatively with or without antibiotics but severe cases with life-threatening complications (intestinal perforation, pneumoperitoneum, intestinal necrosis) need immediate surgical intervention.[3]

In our case, the etiology could be a combination of the various theories mentioned above. To our best knowledge, our case is the first reported possible association of PI with clindamycin. We do understand that association does not necessarily mean causation however the timeline fits his symptoms and due to lack of any other explanation, we concurred that this may be the cause. Further such cases need to be reported to increase the strength of this association and to better understand the exact pathogenesis.

## REFERENCES

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**FIG. 1.** A (Cross-sectional view) & B (Sagittal view): CT scan of abdomen showing air filled cysts (arrow) involving the proximal to mid sigmoid colon consistent with pneumatosis cystoides intestinalis.



**FIG. 2.** Colonoscopy showing multiple air-filled cysts of different sizes in the sigmoid colon.