Not Just Another Case of Acute Abdomen

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Portal venous gas (PVG) has been long considered a surgical emergency. However, PVG could be associated with a range of other milder pathologies including inflammatory bowel disease (IBD), graft versus host disease, bowel obstruction, pseudo-obstruction, bacterial abscesses, diverticulitis, paralytic ileus, suppurative cholangitis, cystic fibrosis and seizures. We present a case of PVG associated with Familial Mediterranean fever (FMF) and our treatment experience.

CASE PRESENTATION

A 48 year old male with history of Familial Mediterranean fever (FMF) presented with a three day history of progressively worsening diffuse abdominal pain. His pain was constant, burning in nature, aggravated with change in position, bowel movements and associated with nausea, vomiting, diarrhea, diaphoresis, diffuse joint pains and swelling. The patient was taking escalating doses of colchicine (0.6 mg every 1-2 hours totaling to about 8-12 mg/day for 2 days) with no relief of symptoms.

On evaluation, he had normal vital signs. Physical examination revealed a soft abdomen with normal bowel sounds. Despite diffuse tenderness upon deep palpation, no guarding, rigidity or rebound tenderness was elicited. Laboratory tests showed leukocytosis with left shift. Serum lactate of 3.2 mmol/L with mild elevation in transaminases (AST 78 IU/L and ALT 77 IU/L). Initial acute abdominal series showed no evidence of pneumoperitoneum but a markedly distended stomach and a distended colon with colonic air fluid levels were noted.

An abdominal computed tomography (CT) scan showed portal venous gas (PVG) without an apparent source (Image 1) but no evidence of air within the mesenteric veins; and no evidence of pneumatosis or pneumoperitoneum was noted. Pericolonic stranding involving the cecum, ascending colon and a portion of the descending colon suggestive of colitis was seen. The patient was treated with antibiotics and bowel rest. Within less than 24 hours of admission, his symptoms resolved along with overall clinical improvement. A repeat CT scan of abdomen done within less than 24 hours revealed spontaneous and complete resolution of PVG (Image 2).

DISCUSSION

Portal vein gas (PVG) traditionally has been associated with high mortality in the background of intestinal ischemia and/or necrosis and often mandating urgent abdominal exploration. PVG has also been associated with a range of other milder pathologies with no immediate risk of mortality and no immediate surgery such as IBD, graft versus host disease, bowel obstruction, pseudo-obstruction, bacterial abscesses, diverticulitis, paralytic ileus, suppurative cholangitis,
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A CASE REPORT

Cystic fibrosis and seizures (1). Abdominal imaging is the mode of diagnosis (2). PVG due to colchicine toxicity has been reported only once in the literature (3).

The cause of PVG in our patient could be multifactorial. The patient had evidence of serositis associated with FMF along with bowel distention, which can compromise the intestinal epithelial barrier leading to the luminal air entering the capillary veins and resulting in PVG. Colchicine overdose/toxicity could have probably played a role as well. The patient clearly exceeded the maximum prescribed dose of colchicine (4-8 mg per attack). Acute colchicine toxicity is known to cause extensive intestinal mucosal damage resulting in nausea, vomiting, abdominal pain and diarrhea (3).

CONCLUSION

With respect to our patient, prompt resolution of clinical symptoms and image findings with bowel rest favor the theory of FMF serositis leading to PVG. Serositis and colchicine overdose/toxicity should be considered in the differential diagnosis of milder pathologies resulting in PVG.

References


Image 2. Repeat abdominal CT scan done on Day 2 of admission at 5.30 PM (less than 24 hours later) showing complete resolution of portal venous gas.