



Air-Fluid Level

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A 38-year-old woman with a history of Crohn's disease presented with progressive abdominal distention, nausea, and constipation of two months duration. She reported intermittent fever, diarrhea, and weight loss of ten pounds. The physical examination showed a tympanitic, distended abdomen with diffuse tenderness and guarding, but no rigidity. Bowel sounds were absent. The rectal examination was unremarkable, with guaiac-negative brown stool.

Laboratory investigations were pertinent for a potassium level of 2.4 meq/l, sodium level of 130 meq/l, white-cell count of 7,000 per cubic millimeter, hemoglobin level of 8.9 g/dl, platelet count of 534,000 per cubic millimeter, and a C-reactive protein of 20.4 mg/dl.

A plain abdominal radiograph of the abdomen revealed dilated small bowel loops with multiple air-fluid levels. Computed tomography of the abdomen showed a massive air-fluid level occupying much of the lower abdomen and pelvis (see image above) with several dilated small bowel loops. No mass or sign of pneumoperitoneum were identified.

The patient was started on intravenous fluid, ciprofloxacin, and metronidazole. A nasogastric tube was placed. Minimal improvement in the patient's symptoms was noted after 24 hours. An exploratory laparotomy showed a large intra-abdominal abscess with 1200 ml of purulent fluid drained. Culture of the fluid yielded growth of *Klebsiella Pneumoniae* and *Streptococcus Viridans*.

The development of intra-abdominal abscess has been reported in 7-28% of patients with Crohn's disease.¹ Spontaneous abscesses are the result of transmural extension of fissure ulcers, while postoperative abscesses may arise from intraperitoneal contamination during surgery, or from anastomotic leaks. Management traditionally has been surgical, but recent series have suggested that percutaneous drainage may have a role to play in the management of this complication in selected patients.² If the abscess is incompletely drained, 6-mercaptopurine was suggested to be preferred over infliximab. Sparse information, however, was available to guide medical therapy in Crohn's disease patients with intra-abdominal abscesses.

References

- ¹ Steinberg DM, Cooke WT, Alexander-Williams J. Abscess and fistulae in Crohn's disease. *Gut* 1973; 14(11): 865-869. PMID: 4761606.
- ² Jawhari A, Kamm MA, Ong C, Forbes A, Bartram CI, Hawley PR. Intra-abdominal and pelvic abscess in Crohn's disease: Results of noninvasive and surgical management. *Br J Surg* 1998; 85:367-371. PMID: 9529495.

Keywords: Crohn disease, abdominal abscess, case report