A rare complication of acute severe ulcerative colitis

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Quiz

A 21-year-old female with ulcerative colitis presented with abdominal pain and bloody diarrhea. Laboratory studies revealed markedly elevated C-reactive protein and thrombocytosis. Flexible sigmoidoscopy revealed severe endoscopic activity with ulceration and spontaneous bleeding along rectum and sigmoid colon. Ulcerative colitis had been diagnosed 3 years before, presenting as severe and extensive disease (pancolitis). She had previously failed therapy with infliximab and vedolizumab and had recently started induction therapy with golimumab.

She responded well to intravenous corticosteroids but, when switched to oral corticosteroids, there was symptomatic recurrence. Intravenous corticosteroids were re-started and she was evaluated for surgery. At this time, she developed new-onset tachycardia. Electrocardiogram revealed sinus tachycardia with heart rate of approximately 120 bpm. Because tachycardia could result from worsening colitis with potential serious complications, abdominal computerized tomography scan was performed and demonstrated mild lumen dilation and wall thickening consistent with acute colitis without evidence of pneumoperitoneum or toxic megacolon. Surprisingly, thoracic planes revealed the presence of free air dissecting mediastinal space (Figure 1). What is your diagnosis?

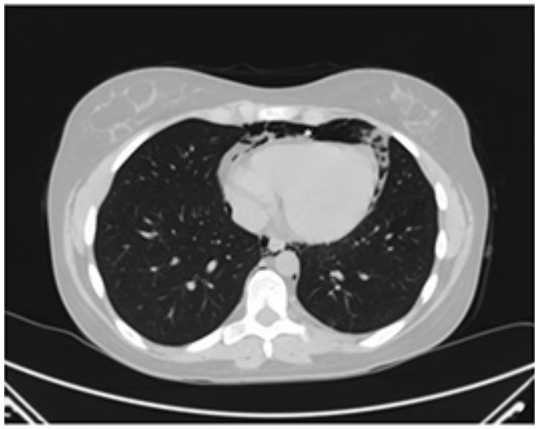

Figure 1. — Abdominal computed tomography was remarkable for the presence of free air dissecting mediastinal space, consistent with pneumomediastinum (white asterisk).

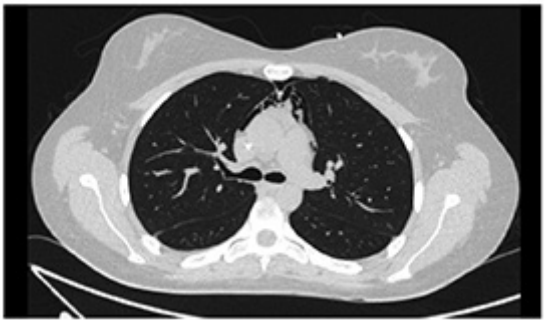

Figure 2. — Chest computed tomography performed 5 days after colectomy demonstrated that pneumomediastinum (white asterisk) had decreased in size.

Answer

These findings were consistent with spontaneous pneumomediastinum. Considering worsening colitis and previous failure of therapy with several biologic agents, she underwent total colectomy with end-ileostomy and evolved favorably during postoperative period. Surgical specimen was severely inflamed but there were no obvious signs of perforation. Repeat computed tomography after 5 days revealed no abdominal complications and pneumomediastinum had decreased in size (Figure 2). She remains asymptomatic and awaits reversal of ileostomy.

Pneumomediastinum is a rare complication of ulcerative colitis, usually associated with perforation following endoscopic procedures or markedly dilated toxic megacolon. However, rarely it may occur in the absence of perforation or toxic megacolon (1-3), possibly because severe inflammation results in microscopic perforations that allow retroperitoneal air leakage, from where it dissects through the visceral space into the mediastinum (2). Nevertheless, pneumomediastinum always reflects a severe degree of colitis and perforation must be carefully excluded. Although our patient had surgical indication because of medically refractory disease, in the absence of a clear cause, pneumomediastinum should resolve with conservative management (3).

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References

1. COHEN M.E., KLEINMAN M.S. Pneumomediastinum during relapse of ulcerative colitis. *Am J Gastroenterol,* 1997, **92**(12): 2306-7.
2. MIHATOV N., FENVES A.Z. Pneumomediastinum in inflammatory bowel disease. *Proc (Bayl Univ Med Cent)*. 2015, **28**(3): 347-9.
3. ANNAHÁZI A., POLYÁK I, NAGY F., WITTMANN T., MOLNÁR T. "Ulcerative crepitus" – a case with subcutaneous emphysema and pneumomediastinum without colonic perforation or toxic megacolon in ulcerative colitis successfully treated conservatively. *J Crohns Colitis*. 2012, **6**(6): 717-9.