CASE REPORT

An unusual case of bowel perforation

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SUMMARY

Bowel perforation is a potentially fatal complication of obstruction, ischaemia, trauma, surgery and medications. It is recognised by clinical suspicion based on history, symptoms of severe abdominal pain and signs such as rebound tenderness, as well as imaging showing free air in the abdomen. Bevacizumab (aka avastin) is an antineoplastic recombinant monoclonal antibody that inhibits angiogenesis in a variety of malignancies. Colonic perforation is a recognised but rare complication of this therapy, likely due to aforementioned bowel ischaemia or compromised mucosal microcirculation which increases susceptibility to injury. We are presenting a case of an unrecognised bowel perforation caused in a patient with abdominal carcinomatosis.

BACKGROUND

Bowel perforation is a potentially fatal complication of obstruction, ischaemia, trauma, surgery and medications. It is recognised by clinical suspicion based on history and symptoms of severe abdominal pain and rebound tenderness, as well as imaging showing free air in the abdomen. This is a case of an unrecognised bowel perforation caused in a patient with abdominal carcinomatosis.

CASE PRESENTATION

A 51-year-old man with 3-year diagnosis of peritoneal carcinomatosis and recurrent ascites requiring paracenteses every 8 weeks presents with dyspnoea and severe abdominal pain similar to past episodes of increasing ascites. His last chemotherapy treatment (bevacizumab, taxol, carboplatin) was 2 weeks prior, and was tolerated with minimal abdominal pain.

INVESTIGATIONS

On admission there was no leukocytosis. Paracentesis removed 0.9 L of fluid which showed 737 white blood cells, 11% polymorphonuclear cells and no organisms. A subsequent paracentesis showed worsening of white cells count and moderate Gram-negative bacilli were noticed. At this time he was diagnosed with spontaneous bacterial peritonitis. In view of persistently distended abdomen, interventional radiology-guided paracentesis was performed with removal of 1.4 L feculent fluid, suggestive of bowel perforation. CT scan showed free intraperitoneal air with large amounts of peritoneal fluid, consistent with perforation though the origin was difficult to identify. As per the radiologist, there were no masses in the colon and no invasion of the bowel wall by carcinomatosis was seen. There were signs of pneumatosis consistent with bowel ischaemia.

TREATMENT

Surgical consult assessed the patient and determined him to be a poor surgical candidate, so cefepime, metronidazole, hydromorphone and intravenous normal saline were initiated.

OUTCOME AND FOLLOW-UP

The patient improved with medical management. Further management was discussed at the gastroenterology tumour board and chemotherapy intervention was considered after resolution of sepsis.

DISCUSSION

Bevacizumab (aka avastin) is an antineoplastic recombinant monoclonal antibody that inhibits angiogenesis in a variety of malignancies. It also inhibits the vascular endothelial growth factor-induced tissue plasminogen activator, urokinase, von Willebrand factor, factor III, etc, which disrupts the coagulation balance and can cause ischaemia-inducing thrombi. Colonic perforation is a notorious complication of this therapy, likely due to aforementioned bowel ischaemia or compromised mucosal microcirculation which increases susceptibility to injury.¹ Perforation incidence ranges from 0.3% to 2.4% across clinical studies, and it usually occurs within 50 days of the last treatment. When pneumoperitoneum is present, mortality rates are as high as 15%.²

Learning points

- ▶ In this case, though invasive carcinomatosis was initially the suspected aetiology of perforation, review of all clinical information revealed a rare, but well known, cause—medication side effect. This case illustrates the importance of recognising rare causes of complications of cancer and cancer treatment, like bowel perforation, even in the setting of more obvious potential aetiologies such as carcinomatosis.

Competing interests None.

Patient consent Obtained.

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