

CASE NOTE

Mock appendicitis: small bowel perforation secondary to lung cancer metastasis

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Clinically important lung carcinoma metastasis to the bowel is rare. Symptoms may be obstruction, hemorrhage, fistula or perforation and typically occur in the final stage of widespread disease.¹ We report the case of a patient with lung cancer whose initial presentation was metastatic small bowel perforation.

CASE REPORT

A 60-year-old male smoker with a history of angina pectoris presented to the emergency department with progressive abdominal pain and fever during the previous 48 hours. The patient described a pain that was periumbilical at first and then migrated to the right lower quadrant. There was no nausea or vomiting, and his vital signs were normal. Physical examination revealed a right lower quadrant pain with guarding. The pulmonary and nodal exam results were normal.

The patient's leukocyte count was $12 \times 10^9/L$. A computed tomography (CT) scan with contrast and ultrasound evaluation showed some inflammation in the right lower quadrant with dilated small bowel and an inflammatory mass measuring 2.5×4.5 cm. We could not see the appendix clearly. There was no free air and no abscess. These exam results were compatible with acute appendicitis.

We scheduled the patient for a laparoscopic appendectomy. At surgery, we found a normal appendix and 2 ileal lesions, one at the terminal ileum and the other on the jejunum. The liver was normal. The lesion on the terminal ileum was perforated and sealed by an adjacent bowel loop (Fig. 1). After thorough lavage of the operative site, we exteriorized the 2 loops of bowel through a 6-cm midline incision. We conducted 2 segmental resections with end-to-end anastomosis. The patient's postoperative course was uneventful, and he was discharged on the fifth postoperative day.

Pathology revealed a poorly differentiated metastatic neoplasm involving the small bowel, consistent with a primary lung cancer (antibody test results for cytokeratin 7 were positive, cytokeratin 20 negative and thyroid transcription factor-1 positive). A CT scan of his chest further revealed a 4-cm mass in the right upper lobe and a 3-cm mass in the left lower lobe involving the pleura (Fig. 2). We did not perform biopsies; rather, we administered a course of palliative postoperative chemotherapy. The patient died 10 months after surgery.

DISCUSSION

To our knowledge, this case of small bowel perforation as the initial presentation of metastatic lung carcinoma is the first such case published in the English literature. Lung cancer is characterized by early dissemination to

many organs, but clinically important metastases to the small bowel are rare and typically occur in widespread disease. In fact, about 40% of patients with lung cancer pre-

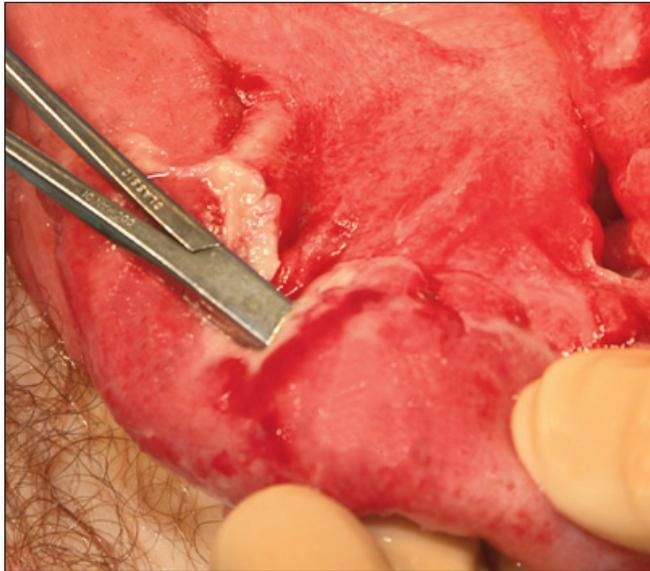


Fig. 1. Perioperative photograph showing the perforated small bowel of a 60-year-old man.

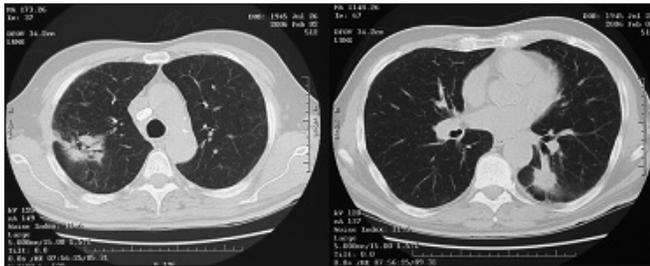


Fig. 2. Computed tomography scans of the chest showing 2 lung neoplasms in the right upper and left lower lobes.

sent with metastatic disease; 4.7%–12.0% will have metastatic disease to the intestinal tract,¹ but only 0.5% will have symptomatic metastasis to the small bowel.²

A literature review by Garwood and colleagues³ in 2004 identified 98 patients with small bowel perforation secondary to metastatic lung carcinoma reported since 1960. The most common site of small bowel perforation was the jejunum (53%), followed by the ileum (28%). Combined jejunum–ileum lesions accounted for 6% of perforations. Small bowel perforations were most commonly caused by adenocarcinoma (23.7%), followed by squamous cell carcinoma (22.7%), large cell carcinoma (20.6%) and small cell carcinoma (19.6%).³ Most patients were offered at least 1 therapy: surgery, chemotherapy, radiation or steroids.³ Mean survival was 66 days; 3-month and 1-year survival were 50% and 2%, respectively.³

In conclusion, small bowel perforation secondary to metastatic lung carcinoma is rare and typically associated with widespread disease. Although surgery in these patients might be associated with a high morbidity and mortality, early and aggressive intervention is still recommended in most patients.⁴

Competing interests: None declared.

References

1. Stenbygaard LE, Sorensen JB, Larsen H, et al. Metastatic pattern in non-resectable non-small cell lung cancer. *Acta Oncol* 1999;38:993-8.
2. Berger A, Cellier C, Daniel C, et al. Small bowel metastase from primary carcinoma of the lung: clinical finding and outcomes. *Am J Gastroenterol* 1999;94:1884-7.
3. Garwood RA, Sawyer MD, Ledesma EJ, et al. A case and review of bowel perforation secondary to metastatic lung cancer. *Am Surg* 2005;71:110-6.
4. Sakorafas GH, Pavlakis G, Grigoriadis KD. Small bowel perforation secondary to metastatic lung cancer: a case report and review of the literature. *Mt Sinai J Med* 2003;70:130-2.