

Acute perforated appendicitis due to metastatic small-cell lung cancer

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Dear Editor,

It is known and very well documented that the lung cancer represents one of the most common cancers worldwide as well as a leading cause of death. Liver, bone, brain, adrenal glands, and lymph nodes are the most common metastatic sites of lung cancer (1). Some reports have documented that there are other unusual metastatic sites like the small intestine and appendix (2). Only a few cases of appendiceal metastases in patients with lung cancer have been reported so far (1).

A 68-year-old male was admitted to our hospital with a 2-day history of severe right iliac fossa pain. His past medical history included small-cell lung cancer with no other co-morbidities. He had completed his chemotherapy cycles with carboplatin, paclitaxel, and bevacizumab almost 1 month ago. On clinical examination, positive McBurney and Rovsing signs as well as rebound tenderness were noted. His body temperature was 39.2°C, and laboratory investigations showed a white blood cell count of 22,000 K/uL with 94% neutrophils and C-reactive protein levels of 39.5 mg/dL. Abdominal ultrasound (US) revealed free fluid in the pelvis and thickened appendix with surrounding fat stranding suggestive of acute appendicitis. A laparoscopic appendicectomy was performed, and a perforated appendix and small localized pus collection were found. The patient had an uneventful recovery.

Histopathological examination of the appendiceal specimen revealed metastatic infiltration almost throughout the length of the appendix (apart from the base) by a highly differentiated adenocarcinoma, extensive mucosal ulceration, and disease-free surgical margins. Histological analysis revealed morphological and immunohistochemical characters of a neuroendocrine

tumor infiltrating the surrounding appendiceal fat. The ki67 was 80%. Positive immunostaining for chromogranin, synaptophysin, CD56, and hematoxylin indicated that the carcinoma was a metastatic appendiceal tumor from small-cell lung cancer.

Acute appendicitis due to metastasis from small-cell lung cancer is an extremely rare entity. To the best of our knowledge, only seven cases of small-cell lung carcinoma (3) and four cases of adenocarcinoma (2) have caused appendiceal metastasis. Although some authors have hypothesized that the peritoneal dissemination infiltrates the appendix, or that this particular metastatic site represents a solitary peritoneal lesion, the real mechanism of this kind of rare metastasis remains unclear (4).

Differential diagnosis of the appendiceal metastasis includes primary appendiceal adenocarcinoma and carcinoid tumor of the appendix. We did not perform pre-operative abdominal computed tomography because we relied on specific clinical examination and US findings, which both established the diagnosis of acute appendicitis with possible perforation. Furthermore, patients with metastatic tumors of the appendix are considered to have a very poor prognosis. Our patient died 6 months later.

The purpose of this report was to highlight that although the appendiceal metastasis remains an uncommon cause of appendicitis, especially a perforated one, an appendiceal tumor should be suspected in the differential diagnosis of patients with known malignancy who present with symptoms of acute or perforated appendicitis. The final diagnosis should be established based on the histopathological findings in the resected specimen.

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