Retroperitoneal Metastasis from Lung Adenocarcinoma Mimics Retroperitoneal Fibrosis

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A 74-year-old woman with left lumbar backache visited her primary care doctor. A radiograph of her abdomen was normal, but a radiograph of her chest revealed multiple pulmonary infiltrates, and she was referred to our institution. The results of positron emission tomography/computed tomography (PET/CT) scans revealed fluorodeoxyglucose (FDG) uptake of her gastric wall and multiple pulmonary nodules. Although she was initially diagnosed with lung metastases from gastric cancer, upper gastrointestinal endoscopy revealed no lesions around her gastric site. On the other hand, specimens obtained from the pulmonary lesion by bronchoscopy showed thyroid transcription factor 1 (TTF-1)–negative mucinous adenocarcinoma with lepidic growth, which had no epidermal growth factor receptor gene mutation (Fig. 1), and she was diagnosed with adenocarcinoma. Retroperitoneal fibrosis was also part of the differential diagnosis, because the contrast-enhanced CT scan revealed poorly marginated soft tissue density around her aorta and left hydronephrosis (Fig. 2*A*), and the PET/CT scan revealed FDG uptake of the retroperitoneal lesions (Fig. 2*B*). Because secondary retroperitoneal fibrosis caused by malignancy was included in the differential diagnosis, a biopsy specimen of the retroperitoneal lesion was obtained. The biopsy specimen revealed cytokeratin-7–positive and TTF-1–negative adenocarcinoma with accumulation of mucus in the duct of the gland (Fig. 3). Because tissue samples from pulmonary lesions resembled those from retroperitoneal lesions in both microscopic and immunohistochemical staining findings, she was diagnosed with retroperitoneal metastases from lung adenocarcinoma. Her disease progressed in spite of the administration of systemic chemotherapy using a platinum-based combination regimen, and she died 130 days after her first diagnosis.

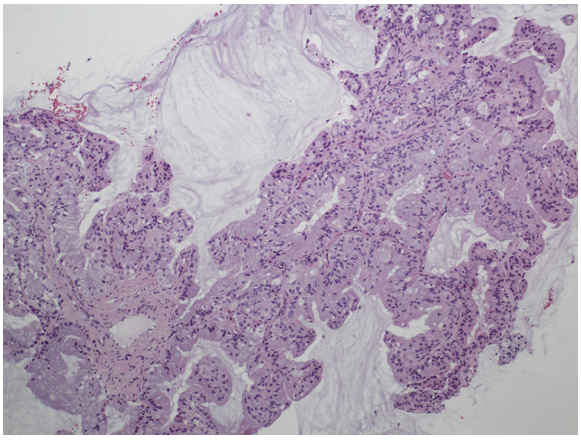

Figure 1. Mucinous adenocarcinoma with a lepidic growth pattern (hematoxylin–eosin stain; low-power field).

Retroperitoneal fibrosis is rare. The idiopathic form of the disease accounts for more than two-thirds of cases, with the rest being caused by other factors. Secondary retroperitoneal fibrosis is caused by drugs, infections, malignant diseases, and connective tissue disease.[1] Malignant diseases include carcinoma of the colon, prostate, breast, and stomach, sarcomas, and

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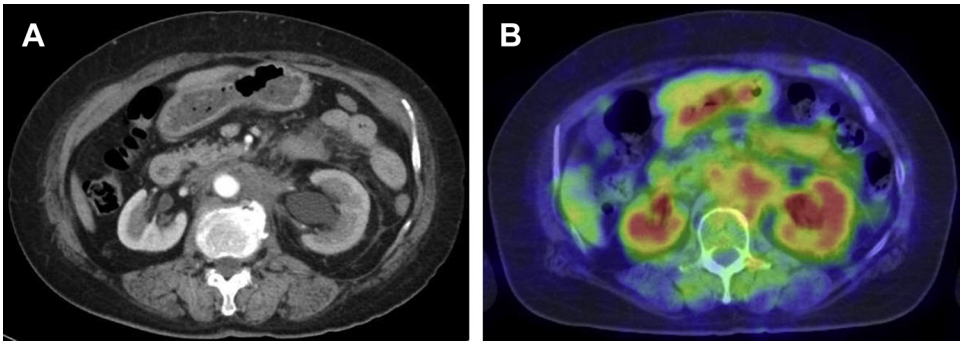

Figure 2. A contrast-enhanced computed tomography scan revealed a shaggy lesion around the aorta (*A*). The lesion had high integration of fluorodeoxyglucose (*B*).

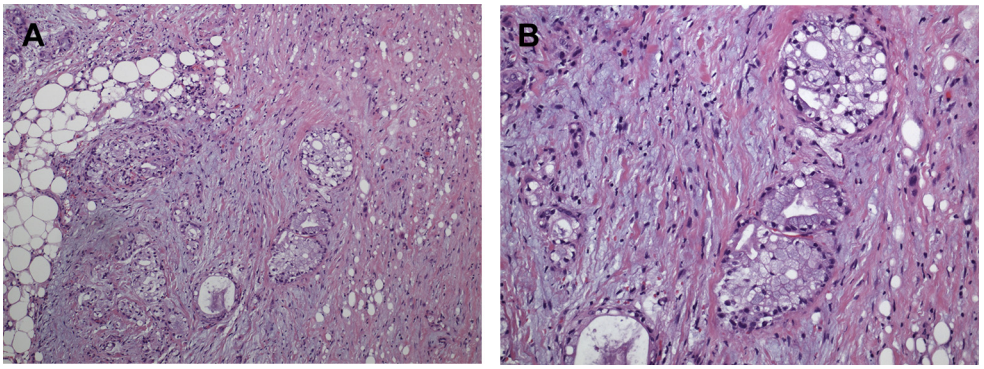

Figure 3. A retroperitoneal biopsy specimen revealed isolated ducts formation, the accumulation of mucus within ducts, and a desmoplastic reaction. (Hematoxylin–eosin stain. *A*, low-power field; *B*, high-power field.)

lymphomas.[2] As for retroperitoneal metastasis, some patients have the mass-forming type,[3] but retroperitoneal metastasis mimicking retroperitoneal fibrosis presenting with poorly marginated soft tissue density around the aorta, as seen in our patient, is rare. Because treatment of active retroperitoneal fibrosis is different from that of retroperitoneal metastasis caused by lung cancer, an accurate diagnosis is important.

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