Osteosarcoma metastasizing to pancreas confirmed by endoscopic ultrasound-guided fine-needle aspiration

Fig. 1 Abdominal CT showed a cystic-solid mass on the head of the pancreas in an 18-year-old male patient.

Fig. 2 Thoracic CT revealed another mass in the inferior left pulmonary lobe.

Fig. 3 Endoscopic ultrasound showed the mass located on the pancreatic head and neck and a dilated pancreatic duct. pan, pancreas, pd, pancreatic duct, sv, splenic vein, con, confluence, sma, superior mesenteric artery.

An 18-year-old male with a history of osteosarcoma of the proximal part of the left tibia presented complaining of upper abdominal pain and vomiting. Osteosarcoma had been diagnosed 4 years previously and been treated with amputation and chemotherapy. Laboratory tests revealed mild anemia (hemoglobin 114 g/L, reference range 120–150 g/L), and normal serum amylase and bilirubin. Abdominal computed tomography (CT) showed a cystic-solid mass measuring 4.3 × 4.5 cm on the head of the pancreas (● Fig. 1). Thoracic CT revealed another mass in the inferior lobe of the left lung (● Fig. 2). No calcification was seen in either lesion. Endoscopic ultrasound (EUS) was carried out using an electronic echoendoscope (GF-UE260-AL5 for radial scanning and GF-UCT240-AL5 for linear scanning; Olympus, Tokyo, Japan) and this showed more clearly a mass containing necrotic areas in the pancreatic head and neck and a dilated pancreatic duct (● Fig. 3 and ● Fig. 4). Endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) of the pancreatic mass using a 22-gauge needle (EchoTip Ultra; Cook Medical Inc., Winston-Salem, NC, USA) confirmed the diagnosis of metastatic osteosarcoma (● Fig. 5 and ● Fig. 6). Pancreatoduodenectomy and thoracotomy with resection of the left inferior lobe was then performed, followed by chemotherapy. At 7 months postoperatively the patient had recovered from the treatment and remained free of detectable disease. Osteosarcoma possesses a high potential for metastasis. The most common sites of metastatic osteosarcoma are the lung, pleurae, and bone. Metastasis to the pancreas is extremely rare [1], and pulmonary metastases usually occur before pancreatic metastases [2]. Our case demonstrates that EUS-FNA is a useful method for definitive diagnosis of pancreatic metastasis in a patient with a history of extrapancreatic malignancy.

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Competing interests: None

Fig. 4 Endoscopic ultrasound clearly showed the pancreatic mass containing necrotic areas.

Fig. 5 Endoscopic ultrasound-guided fine-needle aspiration of the pancreatic mass with a 22-gauge needle.

Fig. 6 Histopathologic analysis revealed amorphous pink-colored osteoid structures with pleomorphic multinucleated sarcomatoid cells.

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