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Acute pancreatitis due to osteosarcoma metastasis

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ABSTRACT

We present the case of a young patient with acute pancreatitis (AP) secondary to osteosarcoma metastasis. It is necessary to assess tumor etiology in the study of any acute pancreatitis without clear cause. Pancreatic metastases are rare and difficult to diagnose and differentiate from other primary tumors such as neuroendocrine tumors (NET). It is essential to have a high degree of clinical suspicion and the use of radiological and endoscopic ultrasound imaging techniques.

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Dear Editor,

21-year-old male, non-smoker or drinker. History of tuberous sclerosis and tibial osteoblastic osteosarcoma with lung metastases resected in two stages. In oncological follow-up, after completing third cycle of adjuvant chemotherapy. He was admitted to the Digestive Department due to epigastric pain for 36 hours. Analytically, he presented elevated pancreatic enzymes in AP range with normal bile profile. An abdominal ultrasound was performed showing an unknown lesion in pancreatic head measuring 1.3x1.2cm with punctate hyperechoic images with peripheral hypoechoic halo that produced Wirsung dilation. These findings raised the differential diagnosis between NET and osteosarcoma metastasis. It was not found cholelithiasis or bile duct dilation. Study was completed with a thoracoabdominal tomography that confirmed ultrasound findings and also showed unknow lung lesions with similar characteristics. The lesion did not show the hypervascular behavior typical of NET, which made the diagnosis of metastasis more likely (Fig 1). An endoscopic ultrasound-guided intermittent fine-needle aspiration was performed on the hypoechoic lesion with regular edges and heterogeneous contents with hyperechoic areas (Fig 2A). Cytology showed fragments of osteochondroid neoplastic cells with atypia (Fig 2B), which confirmed the diagnosis of osteosarcoma metastasis. The patient was discharged to continue oncological follow-up due to good progress.

Although the cause of 70-80% of AP is biliary or enolic, malignancy must be ruled out in all AP without a clear cause, especially in patients over 40 years of age. More than 95% of pancreatic tumors are primary, especially adenocarcinomas. NETs are 3% of primary pancreatic tumors[1], generally sporadic, although 15-20% can be associated with hereditary syndromes such as tuberous sclerosis. Although the incidence of pancreatic metastases is 1.6-11%[1], it is necessary to take them into account in the differential diagnosis of any pancreatic mass in patients with a known primary tumor. The most frequent pancreatic metastases are from renal, lung and colorectal

carcinoma, followed by rarer strains such as sarcomas[2]. Osteosarcoma metastases account for 3% of all pancreatic metastases. Although in most cases they come from long bone, there are also cases of Ewing's sarcoma[3]. The median time from diagnosis of the primary tumor to metastasis is 2-3 years[3]. Radiologically, they show circumscribed calcified lesions with homogeneous enhancement and locoregional infiltration.[4] Endoscopic ultrasound-guided puncture-aspiration is essential to take samples for histological study. Intermittent aspiration has greater diagnostic yield than continuous aspiration with a lower risk of cellular contamination[4]. Surgical intervention is possible in some cases with variable results[5]. There are only thirteen published cases of pancreatic metastasis from osteosarcoma[6], two of them with secondary AP.

In conclusion, tumor cause must be assessed in all patients with AP without a clear cause and pancreatic metastasis in those with a known primary tumor.

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FIGURES:

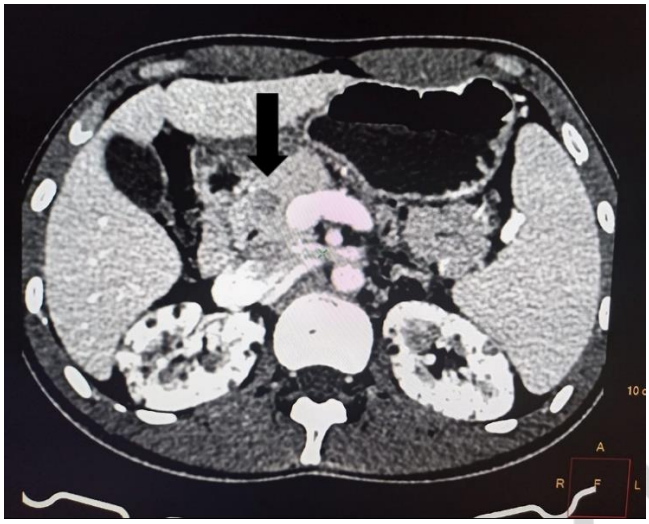

Fig 1: Toracoabdominal CT: 14 x 13 mm hypodense lesion causing retrogade dilatation of Wirsung duct.

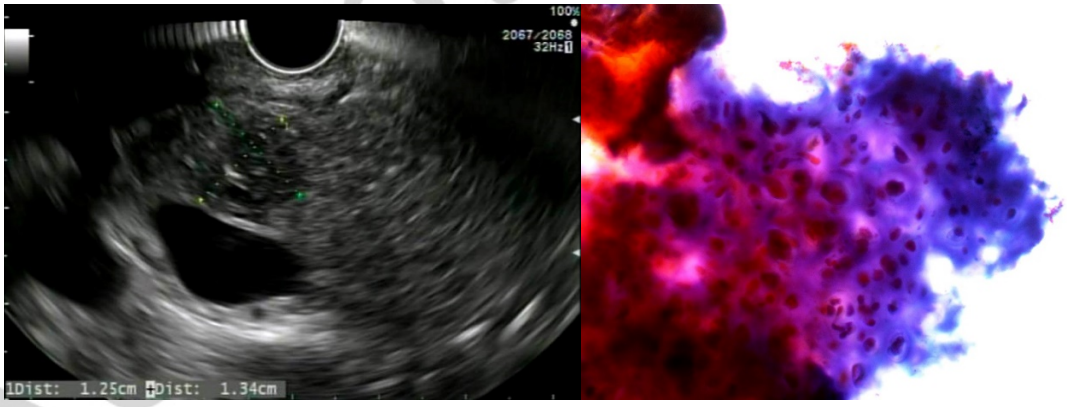

Fig 2: A) Endoscopic Ultrasound: Hypoechogenic lesion with regularly defined borders and heterogeneous content wih hypoechogenic areas. **B)** Cytology: Atypical cellularity with osteochondroid matrix.