Osteoclast–type giant cell tumour
of the pancreas: a case report
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Section: Abdominal imaging
Area of Interest: Pancreas
Procedure: Diagnostic procedure
Imaging Technique: CT
Imaging Technique: Ultrasound
Special Focus: Neoplasia Case Type: Clinical Cases
Authors: Magalhaes, Sara; Macedo, Carlos; Reis, Olinda; Araújo, João; Alves, Nuno; Reis, Fernanda
Patient: 43 years, male

Clinical History:

A forty-three year-old male patient with history of alcohol abuse and one episode of acute pancreatitis was sent to our hospital centre with an expansive pancreatic lesion. Laboratory tests showed no changes and the patient was asymptomatic, without any relevant physical signs.

Imaging Findings:

For further characterization of this pathology the patient underwent an ultrasound, CT and endoscopic ultrasound examination with biopsy.

Ultrasound showed the presence of a solid heterogeneous mass, relatively well defined, with about 6 cm at the level of the pancreas head with associated dilation of Wirsung duct (Fig. 1).

Enhanced CT examination revealed a 7 cm heterogeneous mass, with well-defined borders, with contrast enhancement in solid areas and other areas of necrotic component (Fig. 2 and 5a). It produced a mass effect over the inferior vena cava (Fig. 4) and associated biliary and Wirsung ducts dilatation were observed. No signs of metastatic disease were found.

Discussion:

Osteoclast-Type Giant Cell Tumour of the Pancreas (OGTP) is a rare entity first described by Rosin in 1968, representing 1% of the exocrine tumours of this gland [1, 3]. There are two types of pancreatic giant cell tumour, the pleomorphic/sarcomatoid type and OGTP; a duct epithelial origin is now established and this tumour has been recognized as a variant of ductal adenocarcinoma of the pancreas in the most recent WHO classification [2]. OGTP have a better prognosis and a lower incidence than the pleomorphic type.

Histologically it is characterized by osteoclast-like giant cells and mononuclear stromal cells identical to those seen in giant cell tumour of bone [3]. The histogenesis of OGCT is controversial, with a suggestion of both epithelial and mesenchymal origin [4]. This tumour occurs mostly in the pancreas, although cases have been described in other organs such as the digestive tract (liver, stomach and gallbladder), kidney, ovaries, uterus, breast, parotid and thyroid gland and lung [5].

OGCT of the pancreas is characterized by a well-delineated tumour, which frequently contains bleeding areas and
central necrotic foci as the patient presented. Ultrasound can demonstrate large hypoechoic masses with or without liquefaction areas. Computed Tomography (CT) and magnetic resonance (MR) imaging may demonstrate lobular cystic findings, bleeding and necrosis within the solid tumour and play an important role in staging [6].

Most authors describe a less aggressive course with a lower rate of haematogenous and lymphatic spread compared to adenocarcinoma or other undifferentiated carcinomas, although there is relatively less data regarding the therapeutic management and prognosis of this tumour subtype.

The prognosis depends on the histology of the tumour, namely that "pure" tumours (containing only this tissue) have better outcome compared with OGCT containing foci of mucinous adenocarcinoma or undifferentiated pleomorphic type, as well as the presence of local invasion or distant metastases [2].

The curative treatment is surgical resection. Our patient performed adjuvant chemotherapy followed by a cephalic duodenopancreatectomy and shows no evidence of recurrence or distant metastatic disease in a four-year follow-up.

**Differential Diagnosis List:** Osteoclast–type giant cell tumour of the pancreas, Pseudocyst, Intraductal Papillary Mucinous Tumour (IPMT), Mucinous neoplasia

**Final Diagnosis:** Osteoclast–type giant cell tumour of the pancreas

**References:**


Description: Ultrasound showed a solid heterogeneous mass (yellow arrow), apparently in the pancreas head, with associated Wirsung dilatation (green arrow). Origin: Magalhaes, Sara: Centro Hospitalar do Porto, Oporto, Portugal
Figure 2

Description: Axial CT showed a heterogeneous mass (yellow arrow), with contrast enhancement in solid areas and necrotic component within the tumour (green arrow). Origin: Magalhaes, Sara, Centro Hospitalar do Porto, Oporto, Portugal.
Description: The mass presented well-defined borders in the coronal plane (yellow arrow). Origin: Magalhaes, Sara, Cenro Hospitalar do Porto, Oporto, Portugal.
Description: Note the mass effect over the inferior vena cava (blue arrow). Origin: Magalhaes, Sara, Centro Hospitar do Porto, Oporto, Portugal.
Figure 5

a

**Description:** Photomicrograph of haematoxylin-eosin shows necrotic areas within the tumour (blue arrows). **Origin:** Reis, Olinda MD, Centro Hospitalr do Porto, Oporto, Portugal

b

**Description:** Photomicrograph of haematoxylin-eosin shows scattered multinucleated cells: Osteoclast-type giant cells (red arrows). **Origin:** Reis, Olinda MD, Centro Hospitalr do Porto, Oporto, Portugal