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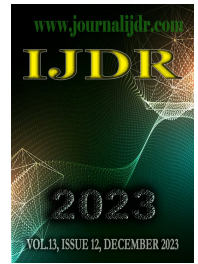
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CASE REPORT

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MATURE CYSTIC TERATOMA OF PANCREAS, A RARE AND INCIDENTAL FINDING: CASE REPORT

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ABSTRACT

The article describes a rare case of a mature cystic teratoma discovered in the pancreas of a 45-year-old woman. Teratomas, originating from germ cells, have the unique ability to generate tissues from all three germ layers. Typically found in the ovaries or testes, pancreatic teratomas are exceedingly rare and often asymptomatic or present with nonspecific symptoms. Imaging revealed a heterogeneous lesion in the pancreas, composed of liquid, solid, fatty content, and calcifications. CT findings strongly suggested a mature teratoma, highlighting the importance of imaging techniques in diagnosing such rare pancreatic neoplasms. We emphasize the need for good and accurate diagnostic imaging in the evaluation of these heterogeneous pancreatic lesions, emphasizing the need for radiologists to consider mature teratomas in the differential diagnoses.

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INTRODUCTION

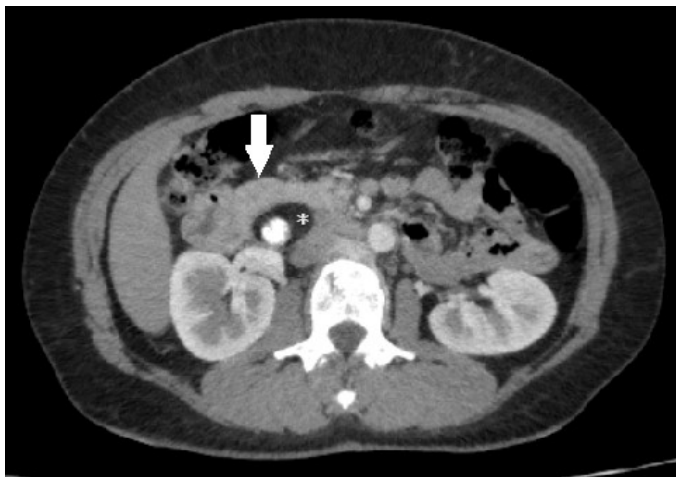
Teratomas are neoplasms of germ cell origin, able to generate tissues from all the three germ layers (ectoderm, endoderm, and mesoderm). They can be classified as benign, well-differentiated lesions, which are solid or cystic, and solid malignant undifferentiated tumors, named, respectively, mature and immature teratomas on the basis of the presence of immature neuroectodermal elements within the tumour (Zhou 2020). Primary dermoid cyst of the pancreas, also called cystic teratoma is a rare neoplasm characterized by the inclusion of well-differentiated parenchymal tissues (Li 2018; Gao 2016). While mature cystic teratomas are commonly found in the ovaries and testes, their occurrence in the pancreas is extremely rare. It is often incidentally discovered during routine examinations or recognized preoperatively as patients present with nonspecific clinical symptoms (Zhou *et al.*, 2020 and Li *et al.*, 2018).

OBJECTIVE AND METHOD

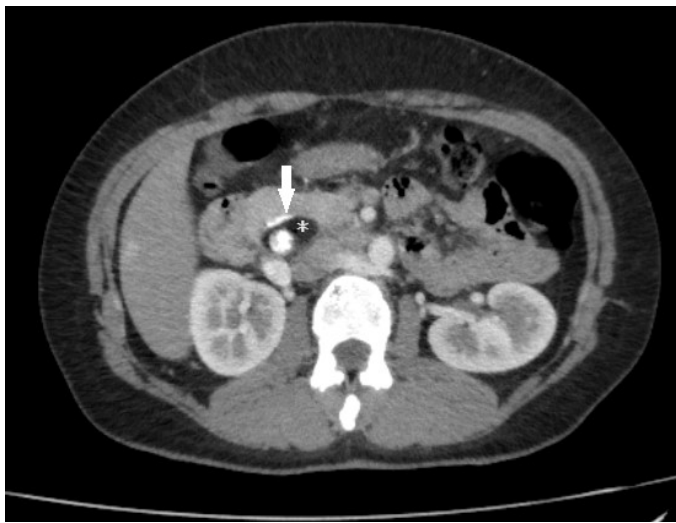
To describe the Computed Tomography imaging findings of a rare case involving a patient with a mature cystic teratoma in the pancreas over a 4-year clinical period.

DISCUSSION

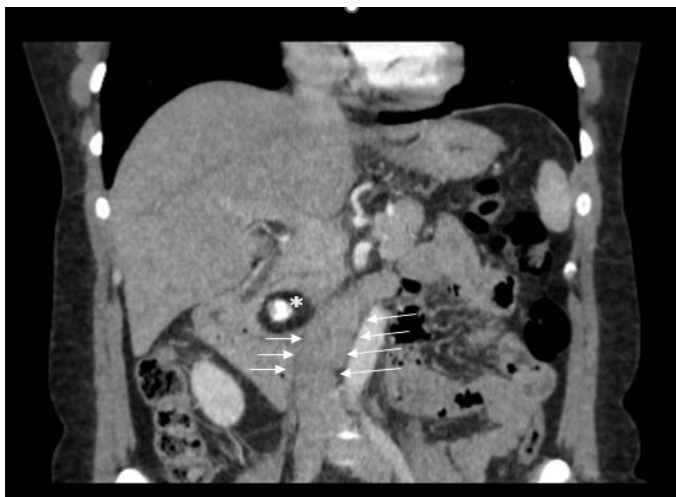
This report documents the imaging findings of a 45-year-old woman who presented with a pancreatic mass on computed tomography (CT). Her medical history was unremarkable, without any long-standing illness or malignancy. The patient had undergone an abdominal CT examination four years ago as part of a preoperative assessment for hysterectomy surgery, revealing a pancreatic nodule requiring further investigation. Currently, in the late postoperative period following hysterectomy surgery, the patient returned for outpatient monitoring of the nodule, experiencing mild abdominal pain in the periumbilical region and numbness in the hypogastric region of the abdominal wall. A new CT scan of the entire abdomen with contrast was performed to assist in diagnosis, revealing a heterogeneous lesion within the head/uncinate process of the pancreas. This lesion measured approximately 3.1 x 2.4 x 2.0 cm (with an estimated volume of 7.7 ml) and exhibited a combination of liquid, solid, fatty content, and coarse calcifications. Although the lesion was in contact with the inferior vena cava, it did not exert compressive effects on adjacent structures.



a)



b)



c)

Figures/Case 1: a) Computed tomography in post-contrast axial section shows a large heterogeneous mass (asterisk) in the head of the pancreas (arrow). b) Contrast-enhanced CT demonstrates a partially calcified capsule (arrow) with calcifications within the mass. c) Computed tomography in post-contrast coronal section demonstrates the lesion's anatomical proximity to the right lateral wall of the inferior vena cava (arrow) without causing a compressive effect

These findings suggested a germ cell tumor, and based on the characteristics observed in the study, a mature teratoma was considered the primary diagnostic hypothesis among the histological variants of germ cell tumors. As the patient did not present any complications, the medical team decided to monitor the case with imaging tests, without initially performing surgical intervention on

the pancreas. Teratoma is a congenital tumor that arises from embryonic residues such as germ cell tumors that are divided into three subtypes: mature, immature and monodermal or highly specialized. Most mature types are strictly considered well-differentiated benign lesions, often referred to as dermoid cysts (Zhou, 2020). The pancreas is one of the rarest primary sites for the development of cystic teratomas. Most patients typically present with nonspecific gastrointestinal symptoms, such as abdominal pain, nausea, vomiting, low back pain, and weight loss, and sometimes with completely irrelevant symptoms. Given that the symptoms and signs are nonspecific, imaging techniques such as abdominal ultrasound, Computed tomography or magnetic resonance imaging can help in the diagnosis of pancreatic cystic teratoma (Li, 2018). On CT, they usually appear as a round hypodense lesion with clear boundaries and Hounsfield Unit (HU) measuring about -20 HU to -140 HU, which may be due to intratumoral contents, mainly as fat, fat and fluid levels, and calcification. Findings highly suggestive of a mature cystic variety of pancreatic teratoma (Tucci, 2007).

CONCLUSION

Mature cystic teratoma is a benign, well-differentiated, extremely rare germ cell neoplasm (Tucci, 2007). An encapsulated mass with intralesional fat, fluid-fat, and calcifications is highly suggestive of a mature teratoma (Zhou, 2020). Cystic pancreatic lesions encompass a wide spectrum of lesions, including non-neoplastic, benign and malignant neoplasms, and accurate characterization through imaging is feasible (Lane, 2012). Radiologists should be familiar with this condition and include it in the differential diagnosis of cystic neoplasms of the pancreas (Zhou, 2020).

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