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Mucinous Cystic Pancreatic Neoplasm in a Splenectomized Patient: A Case Report

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Abstract

Cystic neoplasms of the pancreas are a group of pathologies ranging from benign to malignant lesions. Mucinous cystic neoplasm (MCN) of the pancreas comprises rare cysts with malignant potential that typically occur in the body or tail of the pancreas in perimenopausal women. We report a case of an MCN in a patient with complaints of weight loss and dyspeptic symptoms, as this is the first case report in the literature of MCN with a history of previous emergency splenectomy due to blunt trauma.

Keywords

pancreatic neoplasms; pancreatic cysts; pancreatic diseases

1. Background

Cystic lesions of the pancreas are a group of pathologies ranging from benign to malignant lesions [1]. Based on epithelial differentiation, they are classified as serous cystadenoma, mucinous cystadenoma, mucinous cystadenocarcinoma, or intraductal papillary mucinous neoplasia [2,3], and they are more diagnosed with the increasing use of imaging tests [1,4].

The differential diagnosis between cystic neoplasms of the pancreas is based on patient demographics, radiological imaging, endoscopic ultrasound (EUS), and fine-needle aspiration with fluid analysis, but with relatively low preoperative accuracy [5]. It allows the management of serous cystadenoma, a benign lesion that rarely mandates surgical resection and mucinous cystadenoma which has malignant potential and is almost always treated surgically [5].

Mucinous cystic neoplasm of the pancreas comprises rare cysts with malignant potential that typically occur in the body or tail of the pancreas in perimenopausal women [6], whose surgical treatment is traditionally considered for all patients [7].

2. Aims

Report a case of mucinous cystic pancreatic neoplasm (MCN) in a patient with a history of emergency splenectomy due to blunt abdominal trauma.

3. Case Presentation

A 41-year-old woman was admitted to the emergency department complaining of pain in the left hypochondrium for 1 year, associated with fullness and early satiety. She reported a weight loss of 40 kg in the last 18 months, which she associated with the adoption of a diet during that period. She denied other complaints and comorbidities but reported a history of emergency splenectomy after blunt abdominal trauma 7 years before.

On physical examination, the patient was in a regular general state, with a flaccid abdomen and pain on palpation of the left hypochondrium, with no delineation of masses or bulges. Laboratory tests without alterations.

Abdominal ultrasonography showed a large multilocular heterogeneous cyst measuring 14 x 13 cm adjacent to the posterior wall of the left kidney. Computed tomography (**Figures 1** and **2**) showed a large cystic formation with gross septations and contrast enhancement in the topography of the pancreatic body and tail, measuring 11.8 x 10.8 cm. The spleen was not characterized. There was also a supraumbilical incisional hernia, with a 4.0 cm defect and insinuation of mesenteric fat.

The surgical approach was performed through a median laparotomy (previous surgical access). After adhesiolysis and access to the omentum lesser sac, a mass of large dimensions and hardened consistency was evidenced in the topography of the pancreatic tail, promoting extrinsic compression of the posterior wall of the stomach.

A distal pancreatectomy was performed. A 70mm linear stapler (01 blue load) was used to section the body of the pancreas, with reinforcement of the staple line with a 3-0 polypropylene continuous suture. We placed a Blake drain in the surgical site.

The patient had a good postoperative recovery and was discharged on the 7th postoperative day, after drain removal. Anatomopathological examination confirmed mucinous cystic neoplasm, negative for malignancy, with free resection margins.

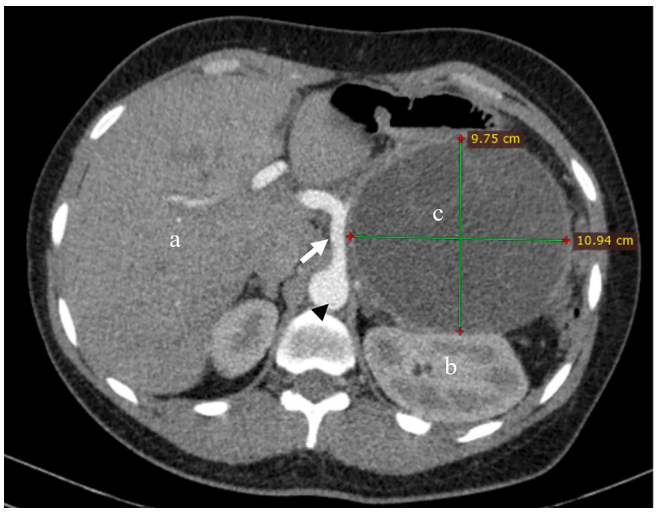

Figure 1: axial computed tomography on arterial phase at level of celiac artery. **a)** liver; **b)** left kidney; **c)** pancreatic cyst; white arrow: celiac artery; black arrowhead: aorta.

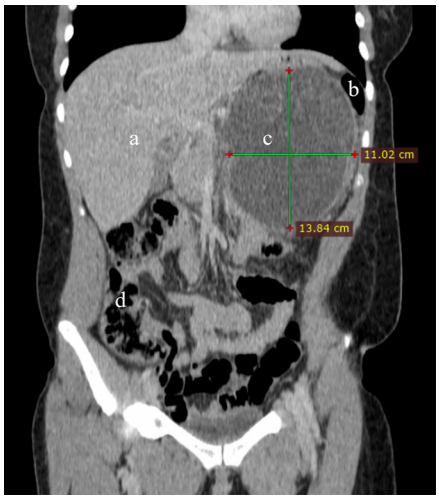

Figure 2: coronal computed tomography on portal phase showing large cystic lesion. **a)** liver; **b)** stomach compressed by cyst; **c)** pancreatic cyst; **d)** right colon.

4. Discussion

Pancreatic cystic lesions can be classified into serous, mucinous, or intraductal cystic neoplasms. Their etiology is variable, they can be inflammatory, post-traumatic, or of unknown etiology. MCN affects women aged 40-50 years and is most commonly located in the pancreatic body or tail [8].

This is the first case report in the literature with a previous splenectomy due to blunt abdominal trauma. A series of 41 cases from the 1970s showed a history of trauma in two patients (4.9%) but without surgical pancreatic intervention before diagnosis [8]. A typical presentation of MCN of a pancreatic cystic neoplasm shows no history of previous pancreatitis or abdominal trauma [9]. When positive, these two conditions elicit the differential diagnosis of pancreatic pseudocyst [10,11]. Neoplastic cystic lesions are also multiloculated and thick-walled, and present no duct-cyst connection [9].

Usually, the diagnosis is incidental, in asymptomatic patients, and imaging tests must be performed to characterize the cyst [2]. They may have malignant potential, requiring surgical intervention for treatment [12]. Benign cystic lesions can be treated conservatively.

The Fukuoka guideline recommends pancreatic resection with lymphadenectomy as a curative approach for invasive and non-invasive MCN [7,13], while reserving limited resections without lymphadenectomy or splenectomy for cases without suspected malignancy (13). The American Gastroenterological Association recommends annual MRI follow-up after resection of MCN with dysplasia or malignancy [14].

Due to the large dimensions of the reported lesion, the presence of compressive symptoms, and suspicion of neoplasia, a surgical approach was indicated.

5. Conclusion

Pancreatic MCN is a rare pathology, with clinical importance due to its potential for malignant degeneration and differential diagnosis with other abdominal neoplasms, and should be

investigated and adequately treated early, with surgery being one of the most frequent options. After finding a cystic lesion in computer tomography while investigating dyspepsia in a patient with a previous emergency splenectomy due to abdominal trauma, we performed a distal pancreatectomy and found a benign MCN with free surgical margins without early surgical complications.

Authors' Contributions

Study conception and design: Diego A. G. da Silva, Ana V.B. de Amorim; data collection: Olga L.L. Veloso, Sara P.G. Torreão, Péricles J.C. de Oliveira, and José P.W. Ramalho; draft manuscript preparation: Diego A.G. da Silva, Mariana G. Silveira. All authors reviewed the results and approved the final version of the manuscript.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

Consent

Patient consent has been obtained prior to submitting this manuscript.

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