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Case Report
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A Giant Pancreatic Serous Cystadenoma: Case Report and Literature Review

Soto Schütte S, Mínguez García J, Alvarado Hurtado R, Jiménez Álvarez L, Casalduero García L, Córdova Martin DM, Allaoua Moussaoui Y, Laguna Hernández P, Bru Aparicio M, Mañes Jiménez F, Lasa Unzue I and Gutiérrez Calvo A*

Department of General and Digestive Surgery, Príncipe de Asturias Hospital, Alcalá de Henares, Spain

Abbreviations

CT: Computerized Tomography; MRI: Magnetic Resonance Imaging; CEA: Carcinoembryonic antigen

Introduction

Pancreatic cystic neoplasms are a rare disease, but its incidence detection has increased in the last years due to the improvement and advances in imaging tests and also better knowledge of this pathology.

It is important to carry out an adequate differential diagnosis between the different tumor types, since its management, treatment and prognosis will vary depending on the entity in question. Within this group, one of the most frequent lesions is pancreatic serous cystadenoma. Usually, this is a benign pathology, with very low risk for malignancy.

We present a case of a woman, operated on because of a long-standing pancreatic lesion, with a pathological diagnosis of serous microcystic pancreatic cystadenoma.

Case Presentation

A 69-year-old female patient, diabetic, with a tumor on the head of the pancreas, compatible with serous pancreatic cystadenoma, negative cytology for malignancy and negative tumor markers, which conditions compression of the stomach and duodenum causing abdominal pain and abdominal bloating. An abdominal mass was palpated on physical examination. The abdominal CT and MRI revealed a huge heterogeneous lesion in the head of the pancreas, well-defined contours, multiloculated, moderately hyperintense in sequences with long TR and hypointense in T1, parietal and septal enhancement (Figure 1). In upper gastrointestinal endoscopic ultrasound showed a lesion of more than 9 cm in the head of the pancreas, formed by microcysts giving the typical honeycomb image. A biopsy of the tumor was taken and the pathological results were compatible with serous cystadenoma.

With these results, it was decided to do a surgical resection, performing a pancreaticoduodenectomy with Y-Roux reconstruction through bilateral subcostal laparotomy. The pathological study of the piece was a serous microcystic cystadenoma of the pancreatic head, with respected margins and the lymph nodes included do not present notable alterations (Figure 2).

The patient had a favorable recovery being discharged on the eighth day of hospitalization.

Discussion

Pancreatic cystic neoplasms are rare lesions. Its prevalence is estimated between 2.6% to 15% of cystic lesions, increasing its incidence with age. It also represents 1% of pancreatic neoplasms [1-3]. The most common are mucinous cystic neoplasms, serous cystadenoma, mucinous papillary intraductal neoplasms, and solid-papillary cystic neoplasms. The main challenge is to differentiate the lesions that will benefit from a conservative management from those that require surgical treatment due to their potential for malignancy.

In the European evidence-based guidelines on pancreatic cystic neoplasms published in 2018, it is established, with a high degree of recommendation, that MRI is the gold standard test for diagnosis and follow-up of this entity. It is especially useful to identify the possible communication between the main pancreatic duct and the cyst as well as the presence of mural nodules [4,5]. CT

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Correspondence:
Soto Schütte Sonia, Department of General and Digestive Surgery, Príncipe de Asturias Hospital, Alcalá de Henares, Madrid, Spain, E-mail: s.sotosc92@gmail.com

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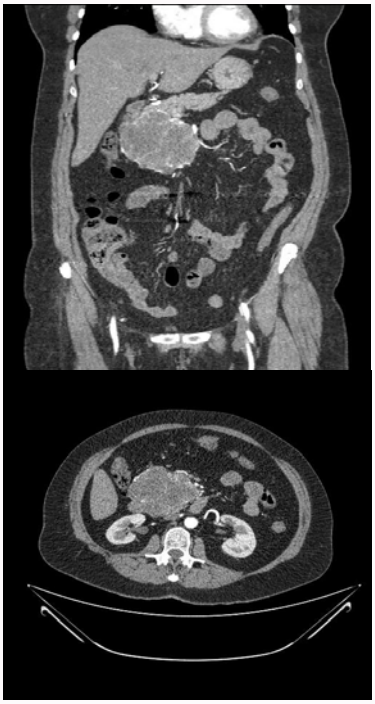

Figure 1: Abdominal CT: it is shown a heterogeneous lesion that measures 8.8 cm × 7.3 cm × 8.5cm (T×AP×CC), with hypodense images suggestive of cysts and presence of contrast-enhancing septa in the head of the pancreas, findings suggestive of serous cystic neoplasm in the head of the pancreas.

should be considered when disseminated disease is suspected, or vascular involvement, or in the differential diagnosis of pseudocysts in chronic pancreatitis. The performance of an upper gastrointestinal endoscopy allows a better characterization of the lesion and allows to do a biopsy for histological analysis [6].

One of the most frequent is serous cystadenoma, the second most frequent pancreatic cystic tumor of this pathology. Its prevalence is estimated around 10% to 16% [7-10]. It is considered a benign tumor, which originates from the centroacinar cells of the pancreas. The risk of malignant progression is very low, less than 1% of cases are malignant serous cystadenomas [11]. In a multinational study, Jais et al. includes the largest cohort of patients diagnosed with pancreatic serous cystadenoma, which includes 2,622 cases, and only 0.1% were diagnosed with pancreatic serous cystadenocarcinomas [10].

It predominantly affects women, around 75%, with a mean age at diagnosis between 58 to 65 years, according to the series [7,9,10,12].

Most of serous cystadenoma are asymptomatic but depending on the location of the tumor and its size, symptoms such as abdominal pain, jaundice or episodes of acute pancreatitis may appear [7,12]. Jais et al. in their article, around 61% of the cases were asymptomatic. If symptoms occur, the most frequent were nonspecific abdominal pain (27%), pancreaticobiliary symptoms (9%), diabetes mellitus (5%) and other less frequent symptoms such as palpation of an abdominal mass, nausea, vomiting or asthenia [10].

As they are mostly asymptomatic, serous cystadenomas are frequently diagnosed by chance in imaging tests performed for another reason. They are usually located in the body and tail of the pancreas, although they can be located in any part of the pancreas [7,10,12].

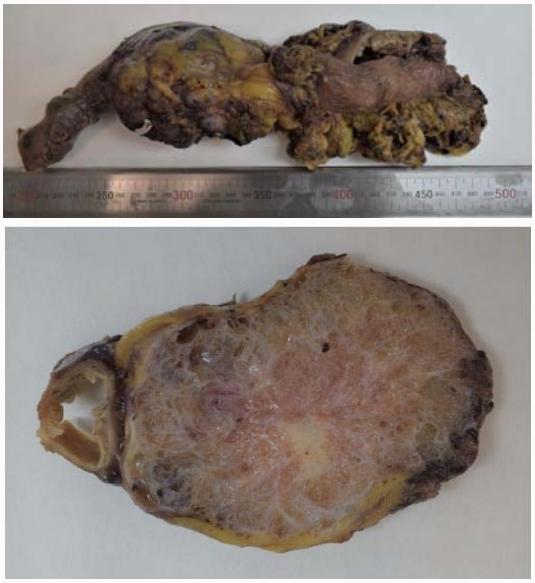

Figure 2: A 9-cm tumor located in the head of the pancreas with a polylobulated surface, well demarcated, which on section shows a spongy, multiloculated, microcystic appearance with a central area corresponding to partially calcified scar fibrosis.

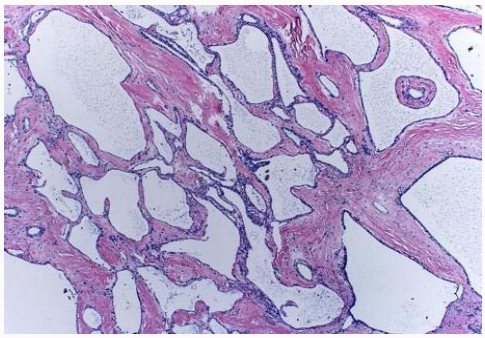

Figure 3: Panoramic showing a pancreas tumor made up of microcysts and small cysts arranged in a dense stroma.

Morphologically, four different types can be established [8,12]. The most frequent variety is microcystic, characterized by presenting multiple cysts smaller than 2 cm separated by fibrous septa, which gives it a typical "honeycomb" image and, in some cases, an area of fibrosis or central calcification can be observed [13] and they are usually found in the body-tail of the pancreas. The next most frequent is the oligocystic or macrocystic type, which shows cysts in a smaller number than the previous one but larger in size and they are commonly located in the pancreatic head. There is a mixed variety among those previously described and finally, the variety of solid cystadenoma, characterized by a single cyst with a solid appearance with enhancement on CT but histologically they are serous cystadenomas.

Despite advances in imaging tests, the definitive diagnosis can be difficult, so the main goal is to identify those cystic lesions that are malignant or those which could progress into a malignant lesion. For this, the combination of at least two imaging techniques (CT and MRI) are useful. Endoscopy ultrasound with fine needle aspiration permits analyze intracystic fluid providing information about cytology, viscosity and levels of amylase and tumor markers, among others [14-16].

Histologically, serous cystadenomas are characterized by a layer of epithelium formed by cuboid cells rich in glycogen and the presence of mucin is not characteristic. CEA and amylase levels will be low in intracystic fluid. In fact, high levels of CEA almost completely rule out serous cystadenoma and would be reason to consider another entity [15]. For example, in mucinous cystic neoplasia and mucinous papillary intraductal neoplasia, CEA will be elevated [17].

Both the European evidence-based guidelines on pancreatic cystic neoplasms and the American Gastroenterological Association Institute Guideline on the diagnosis and management of asymptomatic neoplastic pancreatic cysts for the diagnosis and management of pancreatic cystic neoplasms, in those cases in which the diagnosis of serous cystadenoma is confirmed and they are asymptomatic, a conservative management and a follow-up based on the patient's symptoms is recommended [10,12,18].

Surgical treatment is indicated in those cases in which imaging tests, including CT, MRI and gastrointestinal endoscopic ultrasound, have not been able to reach a clear diagnosis or there are doubts about its malignancy, in rapidly growing lesions and symptomatic patients due to pancreatic tumor [10]. The surgical technique resection of the lesion will depend on the location of the tumor.

Conclusion

Although it is a benign entity, the management of pancreatic serous cystadenoma remains controversial, as it is difficult to reach a definitive diagnosis with the available diagnostic tests nowadays. In symptomatic patients or when a malignant lesion is suspected, surgical resection is recommended.

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