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Case Report

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Mucinous Cytadenoma of the Pancreas: A Case Report with Review of the Literature

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ABSTRACT

Mucinous cystadenomas are a rare entity of cystic lesions of the pancreas, often discovered incidentally and posing a preoperative diagnostic challenge. Women are more often affected than men and these lesions are often asymptomatic, discovered by imaging and biological means. Benign pancreatic mucinous cystadenomas have a very high cure rate with a reduced rate of degeneration. Simple excision of benign pancreatic cysts is considered safe and effective with a very low recurrence rate.

We report the case of a 34-year-old woman who presented with left hypochondrial pain for 2 years. The radiological diagnosis revealed that it was a pancreatic mucinous cystadenoma. The patient underwent a corporo-caudal pancreatectomy with splenic preservation, and the postoperative course was simple. Histological examination confirmed the nature of the pancreatic cyst. This observation highlights the importance of considering pancreatic mucinous cystadenomas in the differential diagnosis of cystic lesions of the pancreas and emphasizes the effectiveness of surgical excision in the treatment of these benign lesions.

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Introduction

Pancreatic cystic lesions represent a diagnostic and therapeutic challenge for physicians. Among these lesions, mucinous cystadenomas of the pancreas are considered a rare entity and their early diagnosis is crucial to avoid malignant degeneration. Mucinous cystadenomas are cystic tumors, which develop from the mucus-producing cells in the pancreas. They are more common in women than in men and may be asymptomatic or cause abdominal pain and distension [1-3].

The diagnosis of mucinous cystadenomas is based on imaging, endoscopy, and biopsy. However, a definitive preoperative diagnosis remains difficult because of the clinical and radiologic similarity to other types of benign or malignant pancreatic cystic lesions. Surgical treatment is often recommended for mucinous cystadenomas, ranging from enucleation to total pancreatectomy. Endoscopic treatments are also being investigated for some lesions We present a case of a 34-year-old woman with left hypochondrial pain for two years who was diagnosed radiologically with a pancreatic mucinous cystadenoma. The patient underwent a corporo-caudal pancreatectomy with splenic preservation and the postoperative course was simple. Histological examination confirmed the nature of the pancreatic cyst [4].

Thus, this observation highlights the importance of early diagnosis of pancreatic cystic lesions and surgical management for cases of mucinous cystadenomas, which have a high cure rate with a low risk of recurrence. This study also provides additional insight into this rare entity to help clinicians make an accurate diagnosis. Advances in imaging techniques and endoscopic treatment also offer new perspectives for a more personalized and less invasive management of pancreatic cystic lesions [5].

Case Report

A 34-year-old woman was admitted to the emergency department for severe abdominal pain with nausea and vomiting. She also reported episodes of left hypochondrial pain with scapular radiation that was exacerbated by eating large meals. She lost approximately 6 kg of body weight over 3 months. Physical examination showed mild tenderness on palpation of the left hypochondrium and mild mucosal skin pallor, but the rest of the examination was normal.

Laboratory tests, including complete blood count, baseline metabolic panel, lipaemia, amylaemia, and tumor markers were normal. An abdominal ultrasound showed a multi-lobular anechoic formation approximately 10 cm in diameter located in

the pancreatic corporal-caudal area and extending anterior to the spleen (Figure 1).

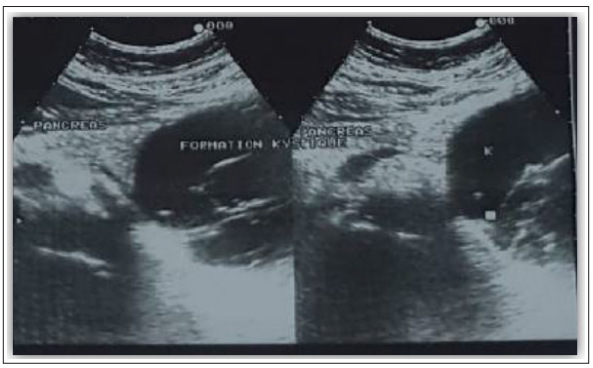

Figure 1: An Abdominal Ultrasound Showed a Multi-Lobular Anechoic Formation Approximately 10 Cm in Diameter Located In the Pancreatic Corporal-Caudal Area and Extending Anterior To the Spleen

An abdominal CT scan demonstrated a well-limited oval-shaped fluid cystic mass with thin internal partitions without significant enhancement after contrast injection, suggestive of a mucinous cystadenoma (Figure 2).

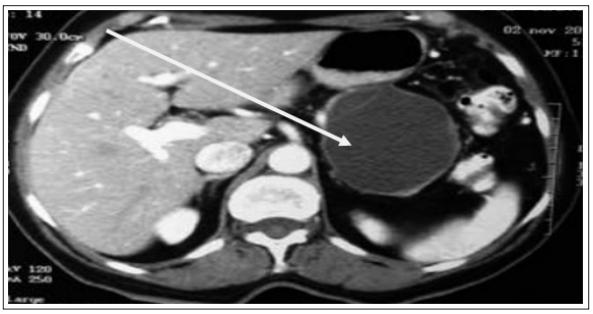

Figure 2: Abdominal CT scan Demonstrated A Well-Limited Oval-Shaped Fluid Cystic Mass with Thin Internal Partitions without Significant Enhancement after Contrast Injection, Suggestive of a Mucinous Cystadenoma

Abdominal MRI showed a well-limited cystic formation of the tail of the pancreas, with internal partitions delineating loci and showing frank T2 hypersignal, T1 hyposignal, and very discrete contrast uptake at the level of the partitions, with a locus showing moderate T1 hypersignal, possibly reflecting internal remodeling (Figure 3).

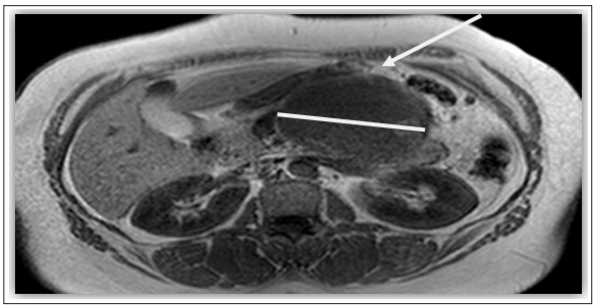

Figure 3: Abdominal Mri Showed A Well-Limited Cystic Formation Of The Tail Of The Pancreas, With Internal Partitions Delineating Loci And Showing Frank T2 Hypersignal, T1 Hyposignal, And Very Discrete Contrast Uptake At The Level Of The Partitions, With A Locus Showing Moderate T1 Hypersignal, Possibly Reflecting Internal Remodeling

Bilio-pancreatic echo-endoscopy with cytopuncture showed a 10 cm diameter corporal cystic lesion with intracystic septa and probably mucus, suggestive of a mucinous cystadenoma. Puncture under echo-endoscopy yielded a citrine yellow fluid, with a positive String test.

An elective laparotomy was performed, which visualized a cystic mass 10 cm in diameter at the body and tail of the pancreas. The splenic artery and vein were free of tumor infiltration, and the spleen was preserved (Figure 4). Histopathologic examination revealed a 12 x 10 x 6 cm cystic formation with a thick wall and simple mucosal secretory epithelium. The wall of the formation was fibrous, with chronic inflammatory remodeling. The diagnosis of mucinous cystadenoma was confirmed, with healthy pancreatic section boundaries and no evidence of malignancy. The patient recovered without postoperative incident.

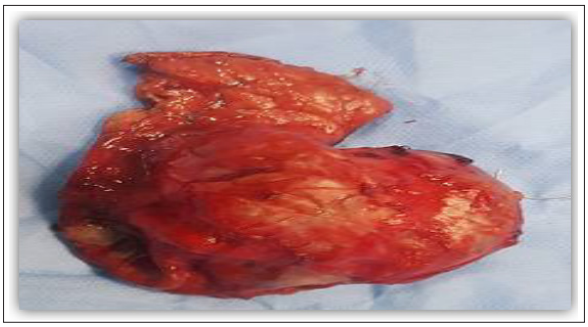

Figure 4: Surgical Specimen after Corporal-Caudal Pancreatectomy

In conclusion, this observation highlights a case of mucinous cystadenoma in a young woman with severe abdominal pain and repeated episodes of pain.

Discussion

Mucinous cystadenomas of the pancreas are rare benign and primary cystic tumors, accounting for 10% of pancreatic cystic lesions and 1% of all pancreatic tumors. They typically localize to the caudal pancreas in 90% of cases and are most common in women with an average age of 50 years. Although CMs are generally benign, there is a non-negligible risk of malignant degeneration, especially for invasive forms. A recent study found that only 10% of resected mucinous cystadenoma cases had high-grade dysplasia or pancreatic cancer, but the tumor should be classified according to the grade of dysplasia. Abdominal pain can be of different intensity and its onset can be long-standing, especially in caudal localizations, while weight loss is seen in 10-46% of cases, but recently and moderately, in contrast to mucinous cystadenocarcinoma, where it is more prominent. CMs can cause a form of cholestatic jaundice with compression of the main bile ducts, but this is more common in patients with mucinous cystadenocarcinoma [2-10].

In terms of imaging, mucinous cystadenomas are usually visualized on ultrasound as anechoic, limited, wall-enclosed lesions that may be uni or multilocular and contain internal septa. On CT scan, before contrast injection, CMs are rounded, well-bounded, and hypodense. After intravenous injection of contrast, the cystic wall enhances, which is thin with hypodense lesion content. On magnetic resonance imaging, the lesions are hypo- or hyperintense in T1 due to mucus and strongly hyperintense on T2-weighted sequences. Ultrasound-guided puncture can help to rule out a pseudocyst and to confirm the mucinous nature of the lesion. The stringy or viscous nature of the fluid may be suggestive, but the determination of tumor markers in intracystic fluid is not sufficient

to predict the benign or malignant nature of the mucinous cystic tumor.The determination of M1-type gastric mucins in intracystic fluid is theoretically elevated, and cytologic examination may reveal the presence of mucicarmin+ epithelial cells. However, the absence of malignant cells on cytology does not confirm the benignity of the tumor, because the concordance between cytology and histology is poor and the dysplasia may be focal. Therefore, the decision of management must be multidisciplinary and take into account the morphological characteristics and location of the lesion, the presence of symptoms, the age and general condition of the patient. Surgery is indicated in case of symptomatic, large, multilocular lesion or in case of suspected malignancy (size greater than 4 cm, irregularity of the wall, communication with the pancreatic duct). Surgical resection is often curative, especially for benign forms, but regular surveillance must be implemented because of the risk of recurrence and malignant degeneration [11-19].

In terms of management, the treatment of mucinous cystadenomas depends on the risk of malignant degeneration, which is assessed according to the size of the lesion, whether it is solid or cystic, the presence of thick or irregular walls, the presence of nodules or internal septa, and the grade of dysplasia. Lesions smaller than 4 cm without evidence of malignancy can be monitored regularly, while lesions larger than 4 cm or with evidence of malignancy should be surgically resected. Distal pancreatectomy is the treatment of choice for mucinous cystadenomas located in the tail of the pancreas, while cephalic duodenopancreatectomy may be necessary for lesions located in the head or body of the pancreas.

Treatment of mucinous cystadenomas is surgical, and complete resection of the tumor is recommended to avoid malignant degeneration and complications related to compression of adjacent structures. Conservative surgery can be considered in patients with small lesions and minimal symptomatology, but long-term follow-up is necessary to detect any tumor progression. For invasive tumors, extended resection with lymph node dissection is necessary to achieve negative margins. Laparoscopy is an alternative to laparotomy in most cases, offering advantages in terms of postoperative recovery and quality of life. However, conversion to laparotomy may be necessary in case of technical difficulties or impossibility of complete resection by laparoscopy [20,21].

Conclusion

Mucinous cystadenomas of the pancreas are rare and benign tumors, but with a significant risk of malignant degeneration. Imaging plays a key role in the diagnosis and follow-up of these tumors, while surgery is the treatment of choice to prevent malignant progression and complications related to compression of adjacent structures. Long-term follow-up is necessary to detect any tumor progression and to adapt the therapeutic strategy accordingly.

Consent

Written informed consent was obtained from the patient for publication of this case and for the accompanying images.

Ethical Approval

As per international standard or universitystandard written ethical approval has been collected and preserved by the author(s).

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