Case Report

Surgical Treatment of a Mucinous Cystic Neoplasm in a Young Female Patient – A Case Report

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Rezumat

Tratamentul chirurgical al unui neoplasm mucinos chistic la o femeie tânără

Principală provocare în evaluarea neoplasmelor chistice pancreatice o reprezintă identificarea leziunilor cu potențial malign sau cu criterii de malignitate. Per total, riscul de malignitate al chisturilor pancreatice descoperite întâmplător este mic. Leziunile chistice cu potențial malign inclu: chistadenomele seroase, neoplasmele chistice mucinoase (MCN), neoplasmele papilare mucinoase intra-ductale (IPMN), neoplasmele solide pseudopapilare. Riscul de dezvoltare a malignității este foarte scăzut pentru chistadenomele seroase, moderat-crescut în cazul neoplasmei chistice mucinoase, al tumorilor solide pseudopapilare și al unor IPMN-urii (pana la 70% pentru IPMN-urile de duct principal). Prezentăm cazul unei paciente în vârstă de 35 de ani, fără factori de risc semnificativi pentru apariția cancerului de pancreas, diagnosticată clinic și imagistic cu leziune chistică de corp și coadă de pancreas, cu diametrul de 7 cm, în contextul unei simptomatologii de obstrucție digestivă înaltă, cu durere de etaj abdominal superior, fără ameliorarea simptomelor după tratament conservator. Astfel, s-a realizat pancreatectomie distală, cu evoluție postoperatorie favorabilă. Examenul histopatologic a descris neoplasm mucinos chistic, non-invaziv, cu displazie de grad scăzut. Multe chisturi pancreatice pot fi urmărite imagistic, printr-un algoritm care combină examinarea CT, RMN sau ecoendoscopică. Decizia de a recomanda tratamentul chirurgical ar trebui să țină cont de factori cum ar fi vârsta pacientului, starea...
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Introduction
Most pancreatic cystic neoplasms (PCNs) are detected incidentally when abdominal imaging is performed for other indications (1). PCNs are categorized using the World Health Organization histological classification (2). There are four subtypes of PCNs, which have varying malignant potential: serous cystic tumors (SCTs), mucinous cystic neoplasms (MCNs), intraductal papillary mucinous neoplasms (IPMNs) and solid pseudopapillary neoplasms (SPNs). The risk for developing malignancy is very low for SCTs, moderate to high in MCNs, solid pseudopapillary tumors and some IPMNs (up to 70 percent for main-duct IPMNs). We present a thirty-five years old female patient, without risk factors for the occurrence of pancreatic cancer was diagnosed via clinical examination and cross-sectional imaging of the abdomen with a 7 cm cystic lesion located in the pancreatic body and tail, in the context of gastric outlet obstruction and upper abdominal pain with no improvement following conservative treatment. A distal pancreatectomy was thus performed, with favorable postoperative outcome. The histopathology examination described a non-invasive mucinous cystic neoplasm with low grade dysplasia. Many pancreatic cysts can be followed with surveillance imaging, through an algorithm which combines CT scan, MRI or endoscopic ultrasound. The decision to recommend surgery should take into account factors such as the patient’s age and general health, the malignant risk of the specific lesion, potential complications and the suspicion for malignancy.

Abstract
The major challenge in the evaluation of pancreatic cystic neoplasms is identifying lesions with malignant potential or signs of malignancy. Overall, the risk of malignancy in incidentally detected pancreatic cysts is low. Pancreatic cystic neoplasms with malignant potential are: serous cystic tumors (SCTs), mucinous cystic neoplasms (MCNs), intraductal papillary mucinous neoplasms (IPMNs) and solid pseudopapillary neoplasms (SPNs). The risk for developing malignancy is very low for SCTs, moderate to high in MCNs, solid pseudopapillary tumors and some IPMNs (up to 70 percent for main-duct IPMNs). We present a thirty-five years old female patient, without risk factors for the occurrence of pancreatic cancer was diagnosed via clinical examination and cross-sectional imaging of the abdomen with a 7 cm cystic lesion located in the pancreatic body and tail, in the context of gastric outlet obstruction and upper abdominal pain with no improvement following conservative treatment. A distal pancreatectomy was thus performed, with favorable postoperative outcome. The histopathology examination described a non-invasive mucinous cystic neoplasm with low grade dysplasia. Many pancreatic cysts can be followed with surveillance imaging, through an algorithm which combines CT scan, MRI or endoscopic ultrasound. The decision to recommend surgery should take into account factors such as the patient’s age and general health, the malignant risk of the specific lesion, potential complications and the suspicion for malignancy.

Key words: pancreatic cyst, malignant risk, pancreatic resection
Case report

We present the case of a 35 years old female, complaining of early satiety, postprandial vomiting after solid meals and left upper quadrant abdominal pain, symptoms that began 4 months before seeking medical care. The patient had no personal or family history of acute or chronic pancreatitis, pancreatic cancer or other malignancies. She consumes alcohol on an occasional basis (20g/week) and has never smoked. She doesn’t have diabetes mellitus and her BMI is normal (23.7kg/m²).

She described early satiety, nausea and vomiting, approximately one hour after solid meals. Her pain was continuous, diurnal and nocturnal, of constant moderate intensity, it radiated to the back and was not relieved by usual analgesics (metamisole, acetaminophen). It was not influenced by meals or bowel movements. She didn’t report any weight loss.

On clinical examination, at the time of admission (January 2017): normal skin color, normal body temperature, abdominal tenderness to palpation of the left upper abdominal quadrant, no signs of peritoneal irritation, no palpable mass. Blood tests: normal blood count, normal liver tests (ALT, AST, total bilirubin, γGT, alkaline phosphatase), no coagulopathy, normal serum lipase. Her viral markers (HBs antigen and antiHCV antibodies) were negative and the tumoral markers CEA and CA 19-9 were within the normal range.

An abdominal ultrasound was performed and described a cystic lesion located in the body and tail of the pancreas, in contact with the posterior gastric wall. The lesion was 7.1/6.4 cm in diameter, round, with thin, regular wall, multilocular, unique. No signs of chronic or acute pancreatitis were seen. The Wirsung duct didn’t appear dilated. A contrast-enhanced MRI of the abdomen and pelvis was then recommended and showed the above mentioned cyst, of 7/6.5 cm, multiloculated, with internal septa, without thickening of the wall, no internal solid component or mass, with calcification of the cyst wall and gastric compression (Figs. 1, 2).

The upper gastrointestinal endoscopy showed signs of extrinsic compression of the posterior gastric body wall, with normal overlying mucosa.

Due to the presence of some risk factors suggestive for malignancy (cyst size > 3 cm, wall calcification) and to the fact that the patient had difficult to control gastric outlet obstruction symptoms, we decided to recommend surgical therapy. On January 10 2017,
surgery was performed and a cystic tumor of the pancreatic tail was found, adherent to the splenic vein. The patient had a distal pancreactectomy, with peritoneal drainage (Fig. 3). The postoperative evolution was favorable with resumption of food tolerance and intestinal transit and suppression of the drainage tubes at day 4.

The pathology report described a 7/6.4/3 cm multilocular cystic lesion with smooth external and internal surface, with trabeculated and thickened walls and mucoid content. The cyst was lined with columnar epithelium, with low grade dysplasia, complex papillae with pancreaticobiliary pattern lined by cuboidal cells with prominent nucleoli, with subepithelial ovarian stroma, mucinous content and marked fibrosis and dystrophic calcifications of the cyst wall (Fig. 4). The surrounding pancreatic tissue also showed marked interstitial fibrosis. In the adipose tissue, two reactive lymph nodes were found. The conclusion was of non-invasive mucinous cystic neoplasm, with low-grade dysplasia (Fig. 5).

A one-month postoperative physical examination was performed along with blood tests and an ultrasound exam. No significant findings were noted.

Discussion

Very often pancreatic cysts are discovered incidentally when abdominal imaging is obtained for unrelated indications.

Mucinous cystic neoplasms can present with abdominal pain, recurrent pancreatitis, gastric outlet obstruction, and/or a palpable mass (3). Jaundice and/or weight loss are more common with malignant lesions.

Contrast-enhanced CT or MRI are the tests of choice to diagnose MCNs. MCNs classically appear as a septated cystic lesion, like in our patient, although they can be unilocular (4). They may contain eccentric calcifications, seen in up to 15 percent of patients (5).

Findings associated with malignant transformation in MCNs include (6): larger size (5 cm or larger in one series (6)), a thickened or irregular cyst wall, an internal solid

Figure 3. Cyst of the pancreatic body and tail, postoperative aspect

Figure 4. Hematoxylin eosin 20 x magnification. Cyst wall with numerous plasma cells and fibrosis lined by tall mucin-producing cells

Figure 5. Hematoxylin eosin 20 x magnification. Dense cellular ovarian-type stroma and papillae lined by tall mucin-producing cells with low grade dysplasia, without invasion
component or mass, possible calcification of the cyst wall.

The optimal approach to evaluating pancreatic cysts is unclear. In 2015, the American Gastroenterological Association (AGA) published new guidelines on the evaluation and management of pancreatic cysts (7).

In some cases, resection will be indicated based on the findings from cross-sectional imaging alone (e.g., if a main-duct IPMN or a SPN is diagnosed) or because the cyst is causing complications (e.g., pancreatitis), so additional evaluation will not be necessary.

For patients who do not have an indication for resection based on cross-sectional imaging alone, additional evaluation may be recommended by endoscopic ultrasound with fine-needle aspiration (EUS FNA) in cysts >1.5 cm in size and for lesions with worrisome features like solid component within the cyst, main pancreatic duct >0.5 cm in size, symptoms related to the cyst, family history of pancreatic cancer (8).

For patients who undergo cyst resection, follow-up depends on the pathologic findings. If there is evidence of invasive cancer or high-grade dysplasia, magnetic resonance imaging surveillance of the remaining pancreas should be performed every two years (7). If there is no high-grade dysplasia or malignancy, surveillance is not needed for patients who do not have papillary mucinous neoplasms (IPMN).
or a strong family history of pancreatic cancer, like in our case.

**Conclusion**

The optimal approach to evaluation and management of pancreatic cystic neoplasms will likely be refined as more data become available in the future. Cysts with malignant potential include MCNs, IPMNs, and SPNs. There is little to no malignant potential with serous cystic tumors.

Many pancreatic cysts can be followed with surveillance imaging. In general, surgery is indicated for cysts with positive cytology, cysts causing complications (eg, pancreatitis, upper digestive tract obstruction), cysts with features suggestive for malignancy and cysts with significant malignant potential.

**Disclosure**

No author has any conflict of interest.

**References**