

## Case Report

# Pancreatic endometriosis a rare entity in surgery: a case report

Carlos Durán Gutiérrez\*, Braulio Rios Muñoz

Department of Gastrointestinal Surgery, Hospital De Especialidades “Dr. Bernardo Sepulveda Gutierrez”, UMAE Centro Médico Nacional Siglo XXI, Instituto Mexicano Del Seguro Social, México City, México

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### \*Correspondence:

Carlos Durán Gutiérrez,

E-mail: carlosyamil7@gmail.com

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### ABSTRACT

Endometriosis is a rare entity that occurs in 2 to 10% of women of childbearing age. It may be rarer if it occurs in extrapelvic organs and extremely rarely in pancreatic tissue, and it may be confused with other causes of pancreatitis or pancreatic pathologies. In the following case we present a young woman of childbearing age who is admitted with abdominal pain. She mentions having recently had elevated pancreatic enzymes. At the time of evaluation within normal parameters, a pancreatic cyst is suspected, which is why it is She underwent surgical treatment, however, due to clinical signs, a cyst with the appearance of endometriosis was punctured, and the histopathological report confirmed pancreatic endometriosis, an entity little known in surgery, however, with a favorable outcome after surgical intervention.

**Keywords:** Pancreatic endometriosis, Surgery, Laparoscopic surgery, Pancreatic pathologies, Tumor quístico pancreas

### INTRODUCTION

Endometriosis is a benign estrogen-dependent inflammatory disease that is recognized as a consequence of the presence of endometrial cells outside the uterus; prevalence is estimated between 2 and 10% in women of reproductive age, with an incidence between 1.6 and 6.9 new cases per 1000 caucasian women.<sup>1,2</sup> When studying a selected population, the numbers increase between 25 and 50% of women with infertility suffering from endometriosis and around 30-50% of women with endometriosis are infertile.<sup>3</sup>

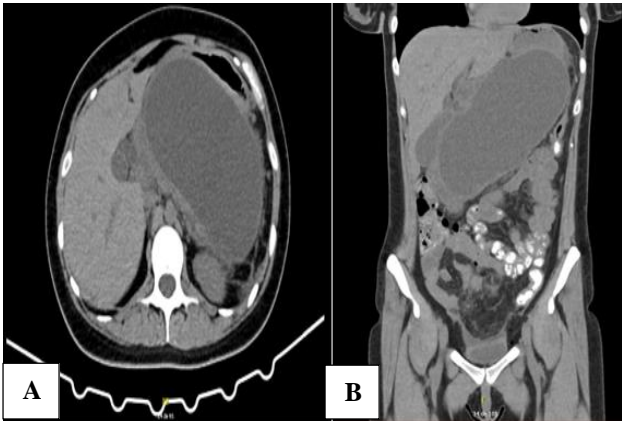
Endometrial tissue inside the uterus, as well as, endometriosis lesions contain endometrial glands and stroma, but these last ones outside the uterine cavity. Those lesions are usually located in the pelvis in places such as the ovary, ovarian fossa, uterosacral ligaments, pouch of Douglas, and bladder, but they can be located in multiple extrapelvic areas, the most frequent being intestinal and urinary tracts, rarely, endometriosis has been reported in

the breast, pancreas, liver, gallbladder, kidney, urethra, extremities, vertebrae, bones, peripheral nerves, spleen, diaphragm, central nervous system, the hymen and the lung.<sup>4,5</sup>

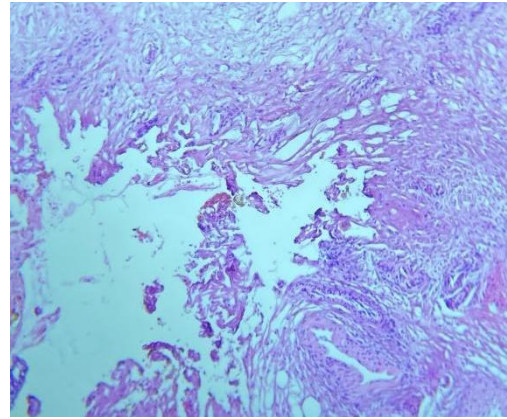
### CASE REPORT

In this case, a 29-year-old female arrived at the emergency room due to abdominal pain in epigastric, in addition to nausea, vomiting, and the incapacity to eat or drink. She had a history of weight loss, approximately 20 kg in the last semester, and a pancreatitis episode 2 months before. At physical examination, a tumor is palpated in the epigastrium. An abdominal CT scan showed a pancreatic gland with a poorly evaluable nodular appearance and a quistic-like lesion on the body of the pancreas was noted, measuring 15×14×9 cm (Figure 1). Laboratory analysis didn't have any alteration. A malignant or premalignant lesion was suspected, therefore, an exploratory laparotomy was performed showing macroscopically an endometrioma, a sample from the quistic liquid was taken

for analysis. The histopathological specimen examination showed loose connective tissue and fibrosis zones with venules and mononuclear inflammatory cell infiltrate, including gold pigmentation attached to fibrous connective tissue, in addition to phagocytosis of hemosiderin by macrophage (Figure 2). The patient had a favorable evolution and was discharged home 3 days after hospitalization for follow-up in the outpatient clinic with referral to the gynecology service to continue management of endometriosis.



**Figure 1 (A and B): The abdominal CT scan revealed a pancreas with a poorly evaluable nodular appearance, a cystic-looking tumor on the body of the pancreas measuring 15×14×9 cm, thick walls, and hypodense homogeneous content.**



**Figure 2: Loose connective tissue and fibrosis zones with venules and mononuclear inflammatory cell infiltrate, including gold pigmentation attached to fibrous connective tissue, in addition to phagocytosis of hemosiderin by macrophage.**

**DISCUSSION**

Pancreatic endometriosis refers to the condition in which a tissue that resembles the lining of the uterus or the endometrium appears inside or around the pancreas, likewise, cystic lesions could develop, clinically showing episodes of pancreatitis with elevated pancreatic enzymes, cyclical pain, and a palpable mass that could be confused with pancreatic cystic lesions, such as those described in the Table 1.<sup>6</sup>

**Table 1: Clinical and imaging characteristics of the pancreatic cystic tumors.<sup>6</sup>**

Characteristics	SCA	MCA	MD/M-IPMN	BD-IPMN	SPN	NET-C
<b>Age at presentation</b>	Variable, usually the 5th to 7th decade of life	Variable, usually the 5th to 7th decade of life	Variable, usually the 5th to 7th decade of life	Variable, usually the 5th to 7th decade of life	The 2nd to 3rd decade of life	Variable, usually the 5th to 6th decade of life
<b>Sex</b>	70% women	90-95%	Same	Same	90% women	Same
<b>Clinical presentation</b>	Incidental finding, abdominal pain, mass effect	Incidental finding, abdominal pain, related to malignancy	Incidental finding, jaundice, pancreatitis, exocrine insufficiency, related to malignancy	Incidental finding, jaundice, pancreatitis, related to malignancy	Incidental finding, abdominal pain, mass effect	Incidental finding (usually nonfunctioning), abdominal pain, and mass effect
<b>Location</b>	Head>body	Tail/body	Head>body>diffuse>tail	Head/uncinate process	Tail/body	Body/head/tail
<b>Solitary or multifoca</b>	Solitary	Solitary	Solitary/ multifocal	Solitary/ multifocal	Solitary	Solitary
<b>Malignant potential</b>	Insignificant	10-39%	36-100%	11-30%	10-15%	10%

Note: SCA- Serous cystadenoma, MCA- mucinous cystadenoma, MD/M-IPMN- main duct intraductal papillary mucinous neoplasm, BD-IPMN- branch duct intraductal papillary mucinous neoplasm, SPN- solid pseudopapillary neoplasm, NET-C- neuroendocrine tumor with cystic degeneration.

Reasons for the spread of endometrial tissue to outlying sites are based on the pathogenesis of endometriosis and include several theories, such as retrograde menstruation, metaplasia of the coelomic epithelium, maturation of undifferentiated cells, migration of embryological cells from the Müller ducts or lymphatic and hematogenous dissemination of endometrial cells. The dominant theory of retrograde menstruation and migration of endometrial cells through the permeable fallopian tubes into the peritoneal cavity cannot explain the presence of endometriosis in distant sites, such as the lungs, pancreatic parenchyma, or central nervous system. For such areas, the theory of lymphatic or hematogenous dissemination has gained acceptance, with several publications supporting this route of dissemination of endometrial cells.<sup>7</sup>

Pancreatic endometriosis often poses difficulties both in diagnosis and treatment. Pancreatic cystic lesions can be mainly classified into 4 categories: (1) congenital cysts; (2) primary pancreatic cystic neoplasms; (3) acquired cysts, including cysts of infectious origin and post-inflammatory cysts (eg, pancreatic pseudocysts); and (4) pancreatic cysts, which develops from extrapancreatic cystic disorders.<sup>8,9</sup> Endometrial cysts of the pancreas fall into this last category.

Diagnosing pancreatic cystic lesions preoperatively is hard to perform, for that reason there is a need to maintain a broad differential diagnosis in mind while suspecting this pathology, including a variety of benign, premalignant, and malignant lesions, as well as non-neoplastic lesions. The main problem is due to the fact that endometriotic pancreatic cysts can commonly mimic neoplastic cysts and, more importantly, tumors with malignant potential, due to the overlapping of radiograph and laboratory features.<sup>10</sup> The main differential diagnosis should be mucinous tumors, such as mucinous cystic pancreatic neoplasms (MCPNs) and intraductal papillary mucinous neoplasms (IPMNs), or solid pseudopapillary tumor (SPT), although serous cystadenoma and pancreatic pseudocysts are also commonly included in the differential diagnosis.<sup>10-12</sup> Hence, the diagnosis is commonly made by histological examination of the resected specimen.<sup>11</sup>

The first-line treatment when there is a strong suspicion of pancreatic endometriosis is hormonal suppression, it can be offered as a diagnostic therapy. If the diagnosis is uncertain or the effect of hormonal suppression is insufficient to treat pain, biopsy or surgical resection should be considered to rule out other pathologies.<sup>7,12,13</sup>

## CONCLUSION

Although the patient in this case did not undergo a biopsy, she did comply with the indications for surgery due to abdominal pain and lesion enlargement. For pancreatic lesions like the one in the patient, unnecessary surgery

should be avoided, but resection remains the treatment of choice in case of suspected malignancy.

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## REFERENCES

1. Eskenazi B, Warner ML. Epidemiology of endometriosis. *Obstet Gynecol Clin North Am.* 1997;24(2):235-58.
2. Kjerulff KH, Erickson BA, Langenberg PW. Chronic gynecological conditions reported by US women: findings from the National Health Interview Survey, 1984 to 1992. *Am J Public Health.* 1996;86(2):195-9.
3. Macer ML, Taylor HS. Endometriosis and infertility: a review of the pathogenesis and treatment of endometriosis-associated infertility. *Obstet Gynecol Clin North Am.* 2012;39(4):535-49.
4. Canlorbe G, Laas E, Cortez A, Daraï E. Spontaneous hymeneal endometriosis: a rare cause of dyspareunia. *BMJ Case Rep.* 2014;2014:bcr2013202299.
5. Tinto DB. Endometriosis diafragmática: diagnóstico, manejo quirúrgico y resultados del tratamiento a largo plazo. *Fértil Esteril.* 2002;77:288.
6. Lira-Treviño A, Carranza Mendoza IG, Borbolla Arizti JP, Soriano-Ríos A, Uscanga-Domínguez L, Peláez-Luna M. Pancreatic cystic lesions. Differential diagnosis and treatment strategy. *Rev Gastroenterol Mex (Engl Ed).* 2022;87(2):188-97.
7. Veeraswamy A, Lewis M, Mann A, Kotikela S, Hajhosseini B, Nezhath C. Extragenital endometriosis. *Clin Obstet Gynecol.* 2010;53(2):449-66.
8. Howard JM. Neoplasias quísticas y quistes verdaderos del páncreas. *Surg Clin Norte Am.* 1989;69:651-65.
9. Lee DS, Baek JT, Ahn BM. Un caso de quiste endometrial pancreático. *Médico Interno J Coreano.* 2002;17:266-9.
10. Mederos MA, Villafañe N, Dhingra S. El quiste endometrial pancreático imita una neoplasia quística mucinosa del páncreas. *Mundo J Gastroenterol.* 2017;23:1113-8.
11. Assifi MM, Nguyen PD, Agrawal N. Quistes epiteliales no neoplásicos del páncreas: una entidad rara y benigna. *J Gastrointest Surg.* 2014;18:523-31.
12. Huang B, Mooser A, Carpenter D, Montenegro G, Luu C. A Rare Case of Pancreatic Endometriosis Masquerading as Pancreatic Mucinous Neoplasm. *Case Rep Surg.* 2021;2021:5570290.
13. Oishi M, Hashida H, Yuba Y, Takabayashi A. Pancreatic endometrial cyst: report of a case. *Surg Today.* 2011;41(7):1011-5.

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