

## CASE REPORT

# Pancreatic Schwannoma Videolaparoscopic Enucleation: A Case Report

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### ABSTRACT

The subject of this study was a thirty-two-year-old female patient presenting nausea and no other symptoms at the clinical examination. The physical examination was unremarkable. The laboratory tests including tumor markers were normal. We performed routine exams where an abdominal ultrasound US identified a solid lesion in the body of the pancreas. An abdominal Magnetic Resonance Imaging was performed, which delimited the lesion and subsequent endoscopic ultrasound EUS evaluation for the histological diagnosis of the lesion. The biopsies initially indicated a Frantz tumor, with immunohistochemical exams being conducted confirming a pancreatic Schwannoma. The patient was submitted to a videolaparoscopic surgery where an enucleation of the lesion was performed, measuring approximately 4 cm in the larger axis. The patient presented good evolution, with improvement of symptoms and no recurrence in the 1-year follow up after the procedure. The anatomopatologic study confirmed the diagnosis of pancreatic benign schwannoma. The objective of this article is to show the medical examination and follow up to videolaparoscopic enucleation of pancreatic Schwannoma in a young female patient with no comorbidities.

### INTRODUCTION

Schwannoma is an uncommon case of neoplasia that can be found in several different organs, including the pancreas. In the last 30 years, fewer than 70 cases describing Pancreatic Schwannoma have been published throughout English literature [1]. The behavior of this lesion is uncertain and differs according to its characteristics. The clinical finding is usually occasional [2]. Routine exams show a solid, cystic or septate appearance of the pancreatic mass, and symptomatology is usually found in large lesions. The main symptoms of Pancreatic Schwannoma are: abdominal pain (50%), weight loss (18%), nausea and vomiting (8.8%) and dyspepsia (7.4%). However, in rare occasions there may be cases of jaundice and cholangitis [3]. The most affected regions of the pancreas are: head (40%) and body (21%) [1, 2, 4]. The malignancy of this lesion was confirmed in 8 cases (12%) described in the literature, out of 68 cases described so far, and are directly related to tumor size.

Simple enucleation by videolaparoscopy is an effective therapy in the cases of resectable Pancreatic Schwannoma [3] without findings of malignancy in the preoperative

study, although this differentiation still remains a challenge. This report aims to present the case of a young patient with an occasional finding of a pancreatic mass with a preoperative immunohistochemical diagnosis of Pancreatic Schwannoma.

### CASE REPORT

In June 2017, a thirty-two-year-old female was referred to our team because of a pancreatic mass found during a routine imaging of the abdomen, while her physical examination was normal. She had originally had nausea for the past year for which she sought medical attention. Routine laboratory tests were normal and tumors markers (CEA, CA 19.9) were negative. During her follow-up, a solid mass of the pancreatic body was detected on abdominal US. Posteriorly abdominal MRI **Figure 1** was performed and described as - (Multiseptated solid lesion (4.5 cm × 3.1 cm × 3.0 cm, volume 21.7 cm<sup>3</sup>) with enhancement by the contrast medium located in the pancreatic body that needs histological correlation. The lesion presented hyposignal in T1 and hypersignal in T2), which ratified the previous image. EUS-guided fine-needle biopsy (EUS-FNB) was performed **Figure 2** using a 19-gauge needle (EchoTip Ultra Echo-19, Cook Medical, Winston-Salem, USA) for four passes. Biopsy anatomopatologic material suggested GIST as first diagnosis. Immunohistochemical test demonstrated a spindle cell tumor strongly immunoreactive for S-100, defining the mass as a Schwannoma.

The patient was submitted to videolaparoscopic surgery **Figure 3**. She was positioned at right lateral decubitus at 60°. A 45° laparoscope was introduced through Hasson's trocar (11 mm) positioned at the umbilicus by

Received September 11th, 2018 - Accepted November 12th, 2018

**Keywords** Magnetic Resonance Imaging; Pancreas

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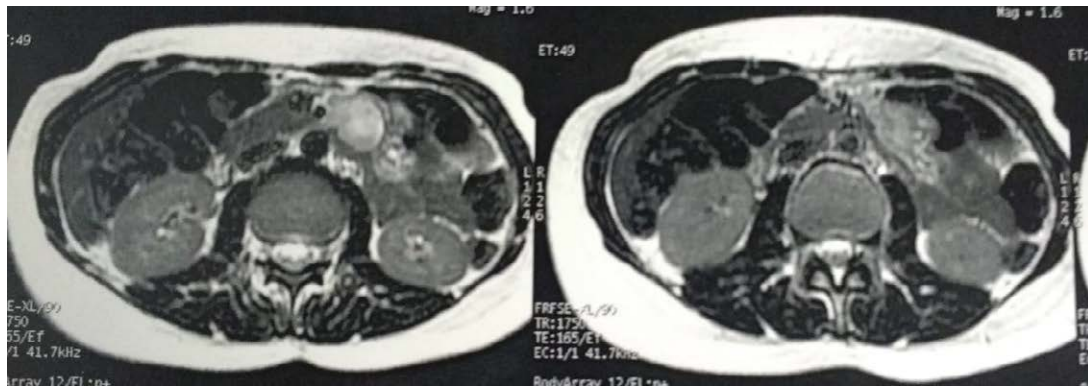
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**Figure 1.** Magnetic resonance imaging of pancreatic mass: Multiseptated solid lesion (4.5 cm × 3.1 cm × 3.0 cm, volume 21.7 cm<sup>3</sup>) with enhancement by the contrast medium located in the pancreatic body that deserves histological correlation. Lesion presented hyposignal in T1 and hypersignal in T2.



**Figure 2.** Linear EUS demonstrating a solid heterogeneous well-encapsulated lesion in the pancreatic body measuring 4.4 × 2.9 cm.



**Figure 3.** Pancreatic solid mass view from laparoscopic approach.



**Figure 4.** Post-operative sample: pancreatic mass located at the body of the pancreas (sample after enucleation).

open approach with two 5 mm and one 11 mm trocars inserted by direct view. The pancreas access was created in the gastrocolic ligament by retracting the greater curvature of the stomach using LigaSure™ Medtronic clamp to dissect the ligament. The colon and the stomach were retracted, and the head and body of the pancreas were released from the dorsal attachments of the stomach and the great omentum. The solid mass was visualized and isolated then enucleated. Nutrition vessels were bound with a titanium clip and with LigaSure™ Medtronic aid. The specimen was then extracted with endoscopic bag by the umbilical incision minimally enlarged. Blood loss was insignificant. The mass measurements confirmed the previous image examination, totaling 4 cm in its largest axis **Figure 4**. The patient presented good evolution, with improvement of symptoms, was sent home on post-operative day 6, being in ambulatory follow-up. Anatomopatologic study of the pancreatic mass confirmed the diagnosis given by the immunohistochemistry examination of pancreatic schwannoma. The one-year follow-up presented no signs of recurrency in image examination, with no symptoms presented.

## DISCUSSION

Although Pancreatic Schwannoma has a good long-term prognosis and is not difficult to treat, the differential diagnosis and approach of the asymptomatic patient remains a challenge. The importance of early and accurate diagnosis, with the help of imaging methods and immunohistological study, are of great value for the differential diagnosis and precise therapeutic approach. Most cases begin with symptoms and vague and non-specific findings in the physical exam. Routine laboratory control does not aid early diagnosis because it demonstrates inexpressive changes, especially in early lesions.

Preoperative screening exams, such as abdominal ultrasound, should be adopted in all patients with abnormalities in the physical examination and anamnesis, and nonetheless remain a diagnostic challenge. Magnetic resonance imaging, computed tomography (CT), transabdominal and endoscopic ultrasound help the diagnosis but may raise doubts regarding the etiology of the lesion due to the different behavior of the Pancreatic Schwannoma described in the literature. The main

abnormalities described in the imaging methods are the hypodensity and multisegmented cystic lesion in CT associated to hyposignal in T1 on MRI [5, 6]. Echoendoscopy followed by biopsy and immunohistochemical study is extremely important for differentiation of diagnosis and therapeutic planning.

In this case, a female patient aged 32 years (mean age 51-56 years) [1, 2]. Similarly to most cases described in the literature, the initial symptoms were non-specific. The imaging exams showed a pancreatic mass and the preoperative diagnosis was confirmed by echoendoscopy with biopsy and immunohistochemistry. The treatment with laparotomy and duodenopancreatectomy accounted for 34% of the approaches being the treatment of choice in most articles in the literature, against 12% of enucleation approaches [1, 2]. The videolaparoscopic treatment performed in this case was the treatment of choice in the minority of the cases described. However, there are successful laparoscopic pancreatic resections in large lesions [5]. Compared with the literature, the case is reported as having a pancreatic body mass (23% of cases), of 4.5 cm in its greatest circumference (a mean of 5.2 cm for benign lesions), with a solid appearance at the initial examination (majority cystic lesions [7, 8] with well-defined margins. Early diagnosis and exclusion of pathologies with malignant etiology in the differential diagnosis remain the main pillar in the approach of pancreatic lesions, whether cystic or solid [2, 9].

## CONCLUSION

Pancreatic Schwannoma should be included in the list of differential diagnoses for any pancreatic lesions and in all regions of the pancreas. Though rare, it remains a possible malignant lesion with high morbidity and mortality in untreated cases. The simple enucleation remains the therapy of choice for benign masses, with excellent results for medium to large lesions, as in the case mentioned, via laparoscopy. Long-term follow-up of the patient should be

performed as a routine, associated with imaging control of the resection margins.

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## Conflict of Interest

The authors have no conflicts of interests to declare.

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