International Surgery Journal
Balmoori NR et al. Int Surg J. 2025 Nov;12(11):2039-2041
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20253474

Case Report

Pancreatic schwannoma with cystic degeneration: a rare tumor mimicking cystic neoplasm

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Received: 10 September 2025
Accepted: 16 October 2025

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ABSTRACT

Pancreatic schwannomas are rare benign nerve sheath tumours, accounting for <1% of pancreatic neoplasms. Their radiological and clinical presentation often mimics cystic pancreatic neoplasms, leading to diagnostic uncertainty. Authors present the case of a 56-year-old female with early satiety and anorexia for four months. CECT abdomen revealed a 9×8 cm lobulated, septated, hypodense cystic lesion with peripheral wall calcifications, arising from the head and uncinate process of the pancreas, suggestive of macrocystic neoplasm. Exploratory laparotomy revealed a well-encapsulated, exophytic, solid-cystic mass arising from the pancreatic head, abutting but not infiltrating adjacent duodenum, SMV and SMA. Complete excision was performed. Histopathology showed spindle cell lesion, and immunohistochemistry confirmed schwannoma with ancient change (S100+, SOX10+, CD117–, DOG1–, CD34–, Desmin–, Ki67 <1%). Postoperative course was uneventful. Pancreatic schwannomas, though rare, should be considered in the differential diagnosis of cystic pancreatic lesions. Immunohistochemistry is essential for definitive diagnosis. Complete surgical excision offers excellent outcomes.

Keywords: Pancreatic schwannoma, Cystic pancreatic lesion, Spindle cell tumour, Ancient change

INTRODUCTION

Pancreatic schwannomas are exceedingly rare tumours of peripheral nerve sheath origin, accounting for fewer than 1% of all pancreatic neoplasms.[1] They arise from Schwann cells of the intrapancreatic autonomic nerves and are usually benign.[2] The head and body of the pancreas are the most frequently involved sites, with sizes ranging from 2 to over 20 cm.[3]

Clinically and radiologically, pancreatic schwannomas often mimic mucinous cystic neoplasms, serous cystadenomas, neuroendocrine tumours, or solid pseudopapillary neoplasms, making preoperative diagnosis challenging.[4] Cystic degeneration, calcification, and haemorrhage may be seen in larger lesions, further complicating differentiation.[5] Histologically, these tumours display spindle cells in Antoni A (hypercellular, palisading) and Antoni B (hypocellular, myxoid) areas. Degenerative atypia with calcification and cystic change is described as ancient schwannoma.[6] Immunohistochemistry (IHC) is pivotal, as schwannomas typically show diffuse positivity for S100 and SOX10, while lacking expression of CD117, DOG1, Desmin, and CD34.[7]

Complete surgical excision is curative in most cases, and outcomes are excellent, with very low recurrence rates.[8-10] Authors present a rare case of a pancreatic head schwannoma with ancient change, managed successfully by complete excision.

CASE REPORT

A 56-year-old female presented with loss of appetite and early satiety for four months. There was no history of

abdominal pain, jaundice, gastrointestinal bleeding, or pancreatitis.

Imaging

Contrast-enhanced computed tomography (CECT) of the abdomen revealed a 9×8 cm well-circumscribed, lobulated, hypodense cystic lesion with septations and peripheral wall calcifications, arising from the head and uncinate process of the pancreas, suggestive of a macrocystic neoplasm.

Intraoperative findings

Exploratory laparotomy with Kocherization revealed a large exophytic, well-encapsulated, solid–cystic mass arising from the head and uncinate process of the pancreas, abutting but not infiltrating the duodenum or vascular structures (SMA, SMV). The mass was excised in toto.

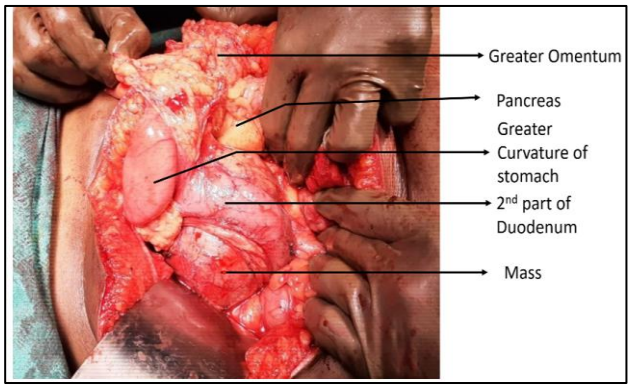

Figure 1: Intra operative picture showing the mass in situ.

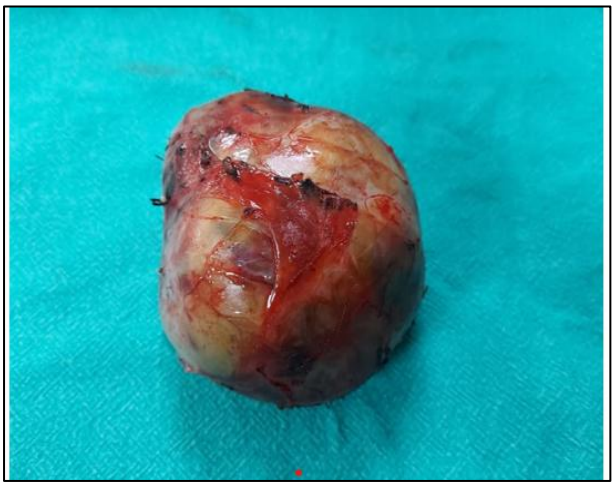

Figure 2: Mass excised in toto.

Histopathology

The tumour showed fibro collagenous tissue with cyst wall changes, dense inflammatory infiltrate, and areas of calcification. Solid regions revealed spindle cells arranged in fascicles with palisading nuclei, minimal cytoplasm, and absence of mitosis or necrosis.

Immunohistochemistry

The lesion stained positive for S100 and SOX10, while negative for CD117, DOG1, CD34, Desmin. Ki-67 index was <1%, confirming the diagnosis of schwannoma with ancient change. Recovery was uneventful, and the patient was discharged on postoperative day 6. She remains disease-free at three years of follow-up.

DISCUSSION

According to Abdelaziz et al Pancreatic schwannomas are extremely rare, with only 97 cases described in the English literature.[3] These tumours may occur across a wide age range, with a slight female predominance in some series.[4] Most of the Pancreatic Schwannomas often present as an incidental finding on imaging due to being asymptomatic, but when symptomatic, common presentations include non-specific symptoms like abdominal pain, nausea, weight loss and jaundice. Radiologically, they present variably as solid, cystic, or mixed lesions.

Cystic degeneration is common in larger tumours and can lead to confusion with mucinous cystic neoplasms, intraductal papillary mucinous neoplasms, or solid pseudopapillary tumours.[5] The presence of peripheral calcification and septal enhancement, as in our case, further complicates the picture.[6]

Histopathologically, schwannomas demonstrate Antoni A and Antoni B areas. Ancient changes such as nuclear atypia, hyalinization, cystic degeneration, and calcification are benign degenerative phenomena and should not be mistaken for malignancy.[6,7] Immunohistochemistry is essential, with diffuse positivity for S100 and SOX10 distinguishing schwannomas from mimickers such as GISTs (CD117/DOG1 positive) and smooth muscle tumours (Desmin positive).[7,8] The treatment of choice is complete surgical excision. Depending on tumour size, site, and suspicion of malignancy, procedures may range from enucleation to pancreaticoduodenectomy.[9] Central pancreatectomy has been described in select cases, particularly for body lesions in younger patients.[10] Prognosis is excellent following R0 resection, and recurrence is extremely rare.

CONCLUSION

Pancreatic schwannoma is an uncommon tumour that may closely mimic cystic neoplasms of the pancreas. Radiological features are non-specific, and histopathology with IHC is essential for diagnosis. Awareness of this entity is important to avoid over-treatment. Complete excision offers cure, and prognosis is favorable.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Balmoori NR, Reddy MRK, Sai CR. Pancreatic schwannoma with cystic degeneration: a rare tumor mimicking cystic neoplasm. Int Surg J 2025;12:2039-41.