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CASE REPORT

Pancreatic Choristoma of the Spleen, a Rare Incidental Finding: A Case Report

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Background: Pancreatic choristoma, alternatively termed ectopic or heterotopic pancreas, denotes pancreatic tissue located outside its standard anatomy and without a direct connection to the main pancreas. The most common sites are the stomach, duodenum, and jejunum, and splenic involvement is very rare.

Case Presentation: We report a 37-year-old Afghan male presenting with a progressively enlarging painful mass in the left upper quadrant. Radiological evaluation demonstrated a splenic lesion with suspected extension toward the pancreatic tail; however, imaging findings were non-specific and could not definitively distinguish between a splenic tumor and pancreatic pathology. Because of dense adhesions involving the splenic hilum and concern for malignancy, the patient underwent open splenectomy. Histopathological examination demonstrated pancreatic acini and ductal structures embedded within splenic parenchyma, consistent with pancreatic choristoma.

Conclusion: Splenic pancreatic choristoma is very rare and typically found incidentally. Preoperative diagnosis is difficult as imaging findings are non-specific. Histopathology remains the gold standard. Management involves surgical excision, which serves both a diagnostic and curative purpose.

Keywords: pancreatic choristoma, ectopic pancreas, spleen, case report, histopathology

Introduction

Choristomas are nonneoplastic, tumor-like lesions made up of normal tissue histologically, at a site that is ectopic. Choristomas are distinct from hamartomas and teratomas. Pancreatic choristoma is uncommon with autopsy studies estimating a prevalence between 0.5–13.7% in the general population.[1] The most commonly involved organs are the stomach (25–38%), duodenum (17–36%), and jejunum (15–21%).[1] Other involved sites include the ileum, Meckel's diverticulum, biliary tract, and omentum.[2] Involvement of the spleen is exceedingly rare. In a large Chinese series of 184 cases of ectopic pancreas, only 5 (2.7%) were in or around the spleen.[3] This anomaly is thought to arise embryologically from aberrant migration of pancreatic tissue during foregut rotation and fusion.[4] Clinically, ectopic pancreatic tissue is commonly asymptomatic and discovered incidentally. When symptomatic, presentation is location-dependent, such as abdominal pain, gastrointestinal bleeding, pancreatitis, or rarely malignant transformation.[5] To date, splenic pancreatic choristoma remains exceptionally rare, with only a small number of cases described in the literature. Most reported cases have been identified incidentally during imaging or surgery performed for unrelated conditions. Symptomatic presentation with a clinically detectable splenic mass, as observed in the present case, appears to be uncommon in published reports. Here, we report one of those cases in a middle-aged man along with its clinical significance.

Case Presentation

A 37-year-old male presented with progressive enlargement and pain in the left upper quadrant of the abdomen for approximately two months. He denied fever, night sweats, weight loss, or gastrointestinal bleeding. His medical history was notable for a left orchiectomy performed three years earlier for testicular pathology. There was no known family history of malignancy. On

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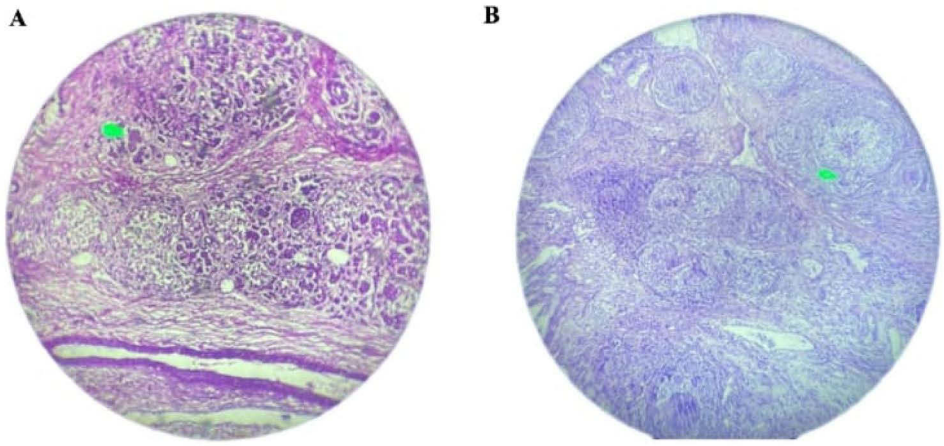

Figure 1 Histopathological findings of splenic pancreatic choristoma. (**A**) Low-power photomicrograph demonstrating ectopic pancreatic tissue embedded within splenic parenchyma (arrows). (**B**) High-power photomicrograph showing pancreatic acini and ductal structures consistent with heterotopic pancreatic tissue.

examination, the patient was afebrile and hemodynamically stable Abdominal examination revealed a firm, tender, palpable mass in the left upper quadrant measuring approximately 8×6 cm. No hepatomegaly, ascites, or peripheral lymphadenopathy was detected. Laboratory investigations including complete blood count, liver function tests, renal function tests, and serum amylase and lipase were within normal limits. An ultrasound-guided tru-cut biopsy was initially performed to exclude metastatic disease or primary splenic malignancy. Abdominal ultrasound demonstrated a heterogeneous splenic lesion measuring approximately 8×6 cm located near the splenic hilum, with possible extension toward the pancreatic tail. However, the imaging findings were nonspecific and could not clearly differentiate a primary splenic lesion from a pancreatic tail pathology.

Because imaging could not definitively exclude splenic malignancy and the lesion appeared closely associated with the splenic hilum, surgical management was pursued. Intraoperatively, dense adhesions were encountered around the splenic hilum and adjacent structures, making separation difficult; therefore, an open splenectomy was performed. The resected spleen contained a firm nodular lesion corresponding to the palpable mass. Gross examination of the resected spleen revealed a well-circumscribed firm nodular lesion measuring approximately 8×6 cm within the splenic parenchyma. The cut surface showed a solid, tan-white appearance. Histopathological examination revealed pancreatic acini and ductal structures embedded within splenic tissue, consistent with pancreatic choristoma (Figure 1). Postoperative recovery was uneventful, and the patient remains disease-free 24 months post-surgery.

Discussion

Ectopic pancreas (EP), also referred to as pancreatic heterotopia or pancreatic choristoma, is believed to arise from aberrant embryological development. One proposed mechanism involves displacement of pancreatic tissue fragments during rotation and fusion of the primitive foregut, resulting in pancreatic elements becoming sequestered in adjacent organs. Another hypothesis suggests abnormal differentiation of pluripotent endodermal cells during early pancreatic bud formation. Because these processes occur during early embryogenesis, the precise mechanism cannot be directly observed and remains inferred from anatomical and pathological findings.[6] Clinically, most cases of ectopic pancreas are asymptomatic and discovered incidentally during imaging, surgery, or autopsy. When symptoms occur, they are usually related to local mass effect, inflammation, obstruction, or bleeding. The most frequent sites of involvement include the stomach, duodenum, and jejunum, whereas splenic involvement is exceedingly rare.[1,3] In the spleen, ectopic pancreatic tissue may mimic other splenic pathologies such as primary splenic tumors, splenic cysts, or lesions involving the pancreatic tail, making preoperative diagnosis particularly challenging. Consequently, definitive diagnosis generally relies on histopathological examination following surgical excision.[7] When the spleen is involved, patients may present with nonspecific symptoms such as left upper quadrant pain or a palpable abdominal mass, although many cases remain incidental findings detected during imaging performed for unrelated conditions.[8] Because imaging features are often nonspecific, ectopic pancreas may be difficult to distinguish from other splenic or pancreatic lesions preoperatively. Although malignant transformation of ectopic pancreatic

tissue is rare, it has been documented in the literature and therefore warrants clinical attention. A systematic review identified approximately 54 well-documented cases of malignancy arising from ectopic pancreas, most commonly occurring in the stomach and duodenum, with splenic involvement being extremely uncommon.[7] A notable case reported malignant degeneration of heterotopic pancreatic tissue in the spleen into mucinous cystadenocarcinoma, demonstrating that even histologically benign-appearing ectopic pancreatic tissue may carry a small but clinically relevant malignant potential.[9] In the present case, the patient initially underwent ultrasound-guided tru-cut biopsy to exclude metastatic disease or primary splenic malignancy. Histopathological evaluation demonstrated pancreatic acini and ductal structures within splenic tissue, confirming a diagnosis of Heinrich type I heterotopic pancreas, which contains all components of pancreatic tissue. Importantly, no evidence of atypia or malignancy was identified. The patient's presentation with left upper quadrant pain and a palpable mass represents a symptomatic manifestation of this otherwise frequently incidental condition. Dense adhesions involving the splenic hilum necessitated open splenectomy. The patient experienced an uncomplicated postoperative recovery and remains disease-free at 24-month follow-up, consistent with the favorable prognosis typically associated with completely resected benign ectopic pancreatic tissue. This case contributes to the limited body of literature describing splenic pancreatic choristoma and highlights the importance of considering ectopic pancreas in the differential diagnosis of splenic masses. Although most cases are benign, the small but documented risk of malignant transformation suggests that surgical excision may serve both diagnostic and therapeutic purposes.

Data Sharing Statement

My manuscript has no associated data.

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare that they have no competing interests in this work.

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