

## CASE REPORT

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# Heterotopic Pancreas of the Gallbladder Associated with Chronic Cholecystitis

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### ABSTRACT

**Context** The presentation of heterotopic pancreas with cholecystolithiasis is exceedingly rare. Very few cases have been reported in the literature. The clinical significance so far is unclear.

**Case report** We report a case of a 20-year-old female, suffering with biliary colic. On clinical examination abdomen was unremarkable. Ultrasonographic examination shows suspicion of a single stone in the gallbladder. Her liver functions were slightly abnormal. MRCP did not show any abnormality in the gallbladder and the common bile duct was of normal caliber. She underwent a successful laparoscopic cholecystectomy and her symptoms resolved. Pathological examination of the gallbladder revealed an area of heterotopic pancreas.

**Conclusion** The preoperative diagnosis of heterotopic pancreas in the gallbladder is difficult. The significance of incidental finding of heterotopic pancreas is unclear and requires a systematic review of the subject.

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### INTRODUCTION

Heterotopic pancreas is defined as the presence of pancreatic tissue without any anatomic or vascular continuity with the main body of the pancreas. Involved sites may be the stomach, duodenum, proximal jejunum, ileum, congenital duodenal web, Meckel's

diverticulum, ampulla of Vater, and the main pancreatic duct [1]. We report a case of heterotopic pancreas of gallbladder.

### CASE REPORT

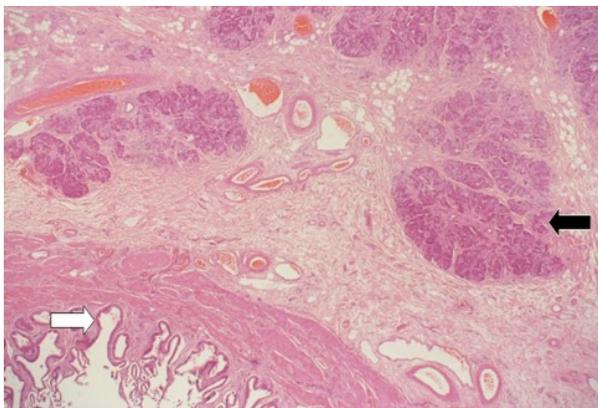
A 20-year-old female presented with history of colicky pain in right upper abdomen. She had one episode of colic which was associated with jaundice. On physical examination her abdomen was unremarkable. Her total bilirubin was 46  $\mu\text{mol/L}$  (reference range: 5-17  $\mu\text{mol/L}$ ), ALT was 513 U/L (reference range: 0-35 U/L) and AST was 227 U/L (reference range: 0-35 U/L). No other abnormality seen in other routine blood tests. Transabdominal ultrasonographic examination showed the presence of a solitary gallstone in a normal gallbladder without any other abnormality. A magnetic resonance cholangiopancreatography did not show any abnormality in the gallbladder and the common bile duct. For the prevention of any further episode of biliary colic and jaundice in this young patient a decision of laparoscopic cholecystectomy was made. An uneventful laparoscopic cholecystectomy was performed using a standard four ports technique. The patient was followed up in outpatient clinic two months after the operation. The symptoms of biliary colic completely settled and her liver functions returned to normal. Pathological examination showed an intact gallbladder measuring 7 cm in length. No stones identified and the gallbladder wall was thickened up to 1 cm in places. Microscopic

appearance was of chronic cholecystitis. Incidentally a circumscribed nodule of heterotopic pancreatic tissue was seen within the adipose tissue on the outside of the gallbladder. This was composed of lobules of exocrine pancreatic acini, together with numerous ducts and occasional islets of Langerhans (Figure 1). It is assumed that the stone from the gallbladder passed spontaneously through the bile duct resulting in transient abnormal liver functions.

## DISCUSSION

Heterotopic pancreas is an abnormality which in majority of cases is found incidentally. It can cause hemorrhage and obstruction of bile duct and gastrointestinal tract.

Histological features show varying degree of excretory ducts, exocrine glands and islets of Langerhans [2]. A heterotopic pancreas is subject to various pathologic changes occurring in the pancreas such as acute pancreatitis, cyst or abscess formation, pancreatic cancer, and islet cell tumor. It can present as a calcified lesion or pancreatitis [3, 4]. It is a benign condition. Its genetic make-up, physiologic function and local environmental exposure is similar to that of the pancreas. The heterotopic pancreatic tissue has also been found to have pancreatic intraepithelial neoplasia (PanIN) in patients with pancreatic carcinoma. These tissues removed at the time of surgery have shown some degree of *K-ras* mutation and expressions for p53, cyclin D1 and p16.



**Figure 1.** H&E stain of gallbladder showing heterotopic pancreas (white arrow: gallbladder mucosa; black arrow: pancreatic acini).

PanIN is a precursor of ductal carcinoma. Presence of PanIN in heterotopic pancreas support progression model with ductal adenocarcinoma [5]. Adenocarcinoma, islet cell tumours and cystic tumours are reported in a heterotopic pancreas [6, 7].

Preoperative diagnosis is rarely possible just because it is a very uncommon pathologic entity and therefore is not been considered in the differential diagnosis either clinically or radiologically. It is the histology which confirms the diagnosis [8]. The clinical presentation is usually secondary to a complication like luminal obstruction or bleeding. Heterotopic pancreatic tissue on the gallbladder is especially rare and its clinical consequences are not known. Current increasing case reports suggesting to consider this rare anomaly in the differential diagnosis of the gastric tumors and intestinal and biliary obstruction [9, 10]. To date there are no reports to suggest any significant clinical importance to make an extra effort to reach a preoperative diagnosis. There are not enough cases reported to characterize the features of this anomaly endoscopically or radiologically. There is a possibility it has been under reported and increasing case reports might help in characterizing this entity in future. The indications for surgery so far only are in the symptomatic patients. A big size biliary or enteric mucosal lesion with a potential to cause bleeding and obstruction or diagnostic dilemma will remain a subject of endoscopic or surgical excision. A specific biologic or immunologic marker in future might help in preoperative diagnosis and prevent unnecessary excisions. A systematic review of the subject is required to explore the clinical significance of this pathologic entity.

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