

## Heterotopic pancreas in the gall bladder

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**H**eterotopia is the presence of tissues that are not normally found in the area. The most important of these is heterotopic or aberrant pancreatic tissue, which is a rare congenital anomaly of the gastrointestinal tract. It is usually asymptomatic and commonly encountered at autopsy or surgery in 2-10% of cases<sup>1,2</sup> especially in the gastric antrum. Other reported locations include ileum, Meckel's diverticulum, spleen, umbilicus, bile ducts, ampulla of Vater, major duodenal papilla, colon, mesentery and even the omentum.<sup>3</sup> There is less than 30 reported cases of aberrant pancreas in the gall bladder wall in the reviewed world English literature. We report here a case of a 23-year-old Saudi housewife presented with 4-month history of intermittent upper abdominal pain, which radiates to the back and was associated with fatty food intolerance. The pain became very severe and was associated with nausea and vomiting a day prior to admission. She denied any history of jaundice, sickle cell disease and was not on the oral contraceptive pill. Clinically she was not jaundiced or pale and had no lymphadenopathy. The abdomen was tender to deep palpation in the right upper quadrant but no guarding or rigidity. Routine blood investigations revealed no leukocytosis, and liver function test was normal. Ultrasound examination revealed slightly thickened gall bladder wall with no pericholecystic fluid. The gall bladder contained multiple gallstones, and common bile duct was normal in size. She was diagnosed as biliary colic, settled on conservative treatment and was discharged 2 days later. She was readmitted as an emergency a week later with severe right upper quadrant pain, which radiated to the back. She underwent an uneventful laparoscopic cholecystectomy of an apparently normal gall bladder and was discharged home a day later. Histopathology of the gall bladder showed thickened gall bladder wall by fibrosis, edema and hemorrhage. There was mildly acute and chronic inflammatory infiltrate. The wall showed an area of aberrant pancreatic tissue with well-formed acini, ducts and islets (**Figure 1**).

Aberrant pancreatic tissue or heterotopic pancreas is believed to occur because of pancreatic mass fragmentation during gastrointestinal tract rotation in the embryonic stage.<sup>4</sup> Microscopically, it may resemble a complete pancreas structure (acini, duct and Langerhans islets) or without the islets. If found, components may be seen in all layers of the gastrointestinal tract.<sup>4</sup> In our case, acini, ducts and islets were present (**Figure 1**). Histological analysis of 32 cases of heterotopic pancreas, all showed pancreatic excretory ducts; exocrine glands

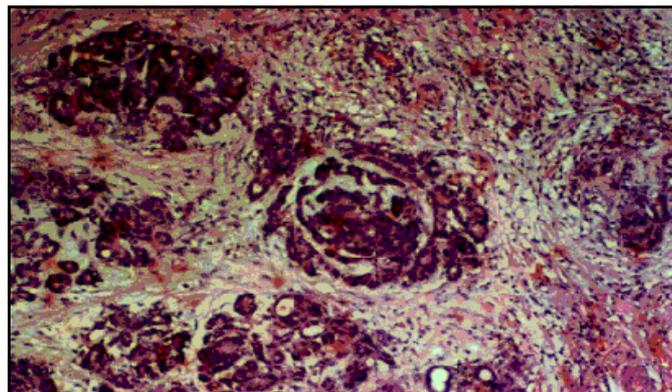


Figure 1 - Gallbladder wall showing lobules of well-formed pancreatic acini, ducts and islets. (Hematoxylin & Eosin x 100).

were present in 31 cases (97%), and islets of Langerhans were discernible in 27 cases (84%).<sup>4</sup> Heterotopic pancreas is most commonly sited in the stomach, the duodenal wall or jejunum.<sup>3</sup> However, it may occur in any site of the gastrointestinal tract. It is located in the submucosa in 75% of the cases and the muscular layer or subserosal in the remainder.<sup>3</sup> They are often asymptomatic but may give rise to a variety of complaints and complications mainly pain, bleeding, ulceration, obstruction or intussusception.<sup>3</sup> Therefore, incidentally detected aberrant pancreatic tissue should be excised to prevent such serious complications. In a clinicopathological analysis of 32 cases of aberrant pancreas, Pang<sup>5</sup> encountered symptoms related to complications such as obstruction of the common bile duct, mucosal ulcer with hemorrhage, intussusception, and intestinal obstruction, but not to pathologic conditions of the pancreas itself, such as pancreatitis or pancreatic cyst or neoplasm. However, acute pancreatitis has been reported in several cases of aberrant pancreas, but the most feared complication, however remains the development of carcinoma. Preoperative diagnosis is seldom possible in every case but can be made by frozen section during operation in good number of cases.

Most cases of aberrant pancreas in the gall bladder wall were discovered as an incidental finding in the histology of the cholecystectomy specimen. They may present with upper abdominal pain and a polypoid lesion, and gallstones may be detected on ultrasonography. Cholecystectomy is usually curative in all symptomatic cases. Aberrant pancreatic tissue may incidentally be discovered in an inflamed gall bladder. The finding of aberrant pancreas in our case was incidental as the patient has had no symptoms related to this per se and there was nothing to suggest any macroscopic abnormality in the gall bladder during the operation. In one of the largest analyses and reviews of heterotopic pancreas, none of the 32 histologically

## Clinical Notes

documented cases was in the gall bladder.<sup>5</sup> Furthermore, the majority (83%) of asymptomatic cases was found in the jejunum and in various gastrointestinal organs mainly the stomach in the symptomatic group.<sup>5</sup>

We believe that this is the first case of an aberrant pancreatic tissue in the gallbladder ever reported in the Saudi literature and that such a pathological entity is very rare and most often discovered incidentally on histological examination of the gall bladder.

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