

Gastrointestinal and Liver Pathology at Rush

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Case of the Month Answer – August 2008

Contributed by Drs. Deborah Giusto and Shriram Jakate

Diagnosis: Acute Pancreatitis in a Heterotopic Pancreatic Nodule in the Jejunal Wall

This is a rare mass showing a sharply circumscribed and thinly encapsulated 4.0 cm heterotopic pancreatic nodule ("pancreatic rest"), radiographically and clinically (intra-operatively) distinct from the main pancreas, located in the wall of the proximal jejunum in the subserosa, muscularis propria and submucosa (Figure 1-lower half of figure). Histologically the mass contains a normal pattern of pyramidal lobules, ducts, and acinar as well as islet tissue (Figure 1-lower left hand corner). The nodule also shows typical features of acute necrotizing pancreatitis (Figure 1-lower right hand corner, Figure 2 and Figure 3), more evident on the subserosal and serosal aspect with fat necrosis and calcification, whereas the more luminal pancreas is relatively uninfamed (Figure 4).

Heterotopic pancreas, a congenital disorder which consists of the presence of pancreatic tissue located outside the pancreatic frame, was first reported in 1727 when it was found in an ileal diverticulum. It has been proposed that heterotopic pancreas results from the separation of pancreatic tissue during the embryonic rotation of the dorsal and ventral buds. The most common sites of heterotopic pancreata are the stomach, duodenum, jejunum, Meckel diverticulum and ileum. Less common sites include the esophagus, lungs, gallbladder, spleen, umbilicus, fallopian tube, lymph nodes mediastinum, tongue and submandibular salivary gland. Heterotopic pancreas usually remains asymptomatic throughout life and is found incidentally during an upper endoscopy or other radiologic imaging modalities such as laparotomy, but it may become clinically evident when complicated by acute/chronic inflammation or growth. Complications associated with heterotopic pancreas include ulceration, bleeding, jaundice, luminal obstruction and gastric outlet obstruction. Acute and chronic pancreatitis in heterotopic pancreas has been reported.

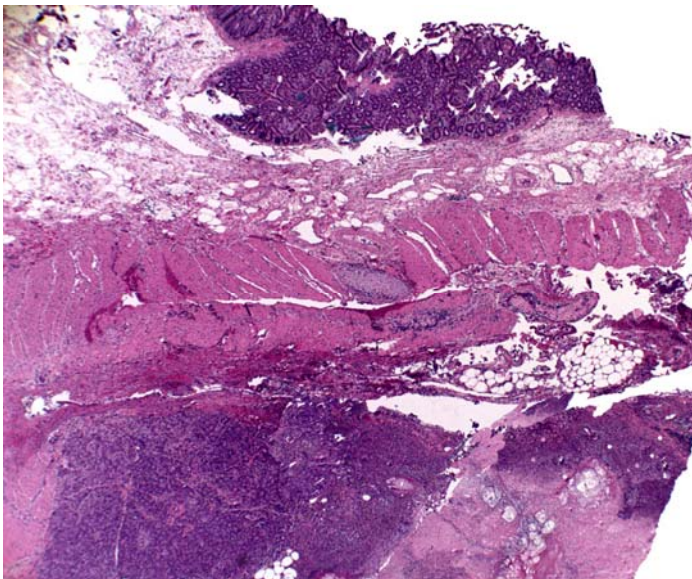


Figure 1. Histological section showing full thickness section of jejunum with serosal jejunal mass (heterotopic pancreatic nodule) extending to the muscularis propria (hematoxylin and eosin stain, 10x magnification).

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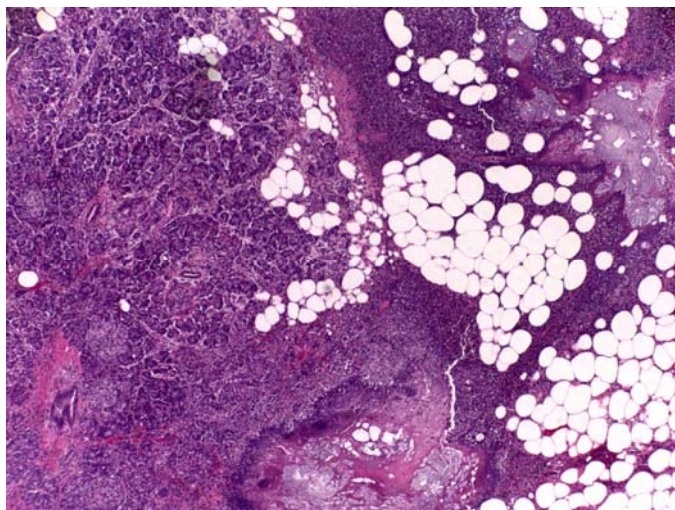


Figure 2. Histological section showing acute necrotizing pancreatitis with serosal fat necrosis in a heterotopic pancreatic nodule in the jejunal wall (hematoxylin and eosin stain, 100x magnification).

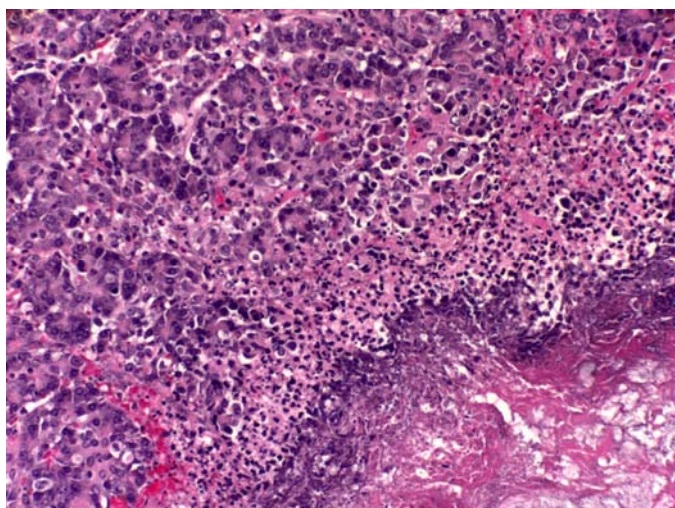


Figure 3. Histological section showing acute necrotizing pancreatitis with pancreatic tissue surrounded by numerous neutrophils, necrosis and calcification (hematoxylin and eosin stain, 200x magnification).

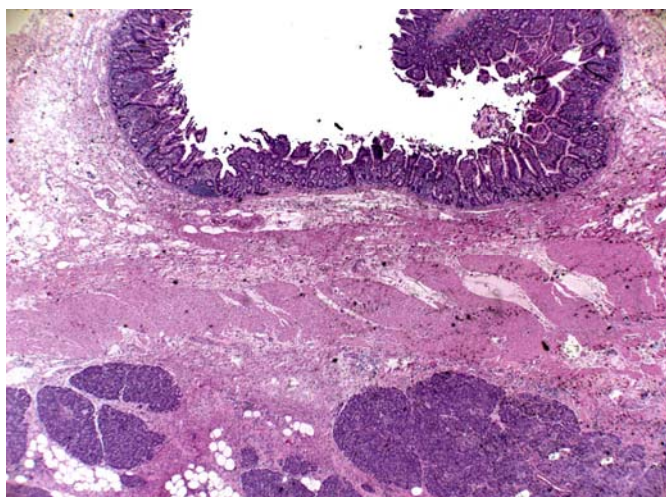


Figure 4. Histological section showing luminal aspect of the jejunum with relatively uninflamed heterotopic pancreas in the serosa and subserosal (hematoxylin and eosin stain, 40x magnification).

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References

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Qizilbash AH. Acute pancreatitis occurring in heterotopic pancreatic tissue in the gallbladder. *Can J Surg* 1976; Sept 19(5):413-4.