

## Symptomatic heterotopic pancreas of the jejunum: A case report

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### ABSTRACT

**Introduction:** Heterotopic pancreatic (HP) tissue defined as tissue that is found outside the anatomical location of the pancreas. It can occur anywhere in the gastrointestinal tract with the stomach and small bowel being the most common sites. The diagnosis of HP is considered difficult and usually discovered as an incidental finding in laparotomy. However, it can present as a case of intussusception or even perforation.

**Case Presentation:** In this case, we report a 23-year-old male with a history of abdominal pain with vomiting that lasted for 7 days. Computed tomography (CT) scan was suggestive of intussusception. Laparotomy was done and a mass was found adherent to the jejunal wall. Partial resection of the jejunum was performed including the mass. The histopathological analysis confirmed it to be mixed exocrine and endocrine heterotopic pancreatic tissue.

**Conclusion:** Heterotopic pancreatic tissue in the jejunum is rare. However, it should be considered in the differential diagnosis of jejunal masses.

**Keyword:** Intussusception, heterotopic, ectopic, pancreas, jejunum.

### Introduction

Heterotopic pancreatic tissue is defined as tissue that is found outside the anatomical location of the pancreas. Mostly, it is found accidentally and can be found in different sites of the gastrointestinal tract. It can present also as a case of obstruction, bleeding, or even malignant transformation [1]. Preoperative diagnosis is usually difficult to establish, necessitating the assistance of histopathology to determine the nature of the mass [2]. In this article, we report a case of 23-year-old male with heterotopic pancreas in the jejunum with a picture of gastroenteritis.

### Case Report

A 23-year-old male patient not known to have any medical illness complaining of epigastric pain associated with vomiting, anorexia, watery diarrhea, and fever for 7 days, was admitted to our hospital. Two days after the onset of symptoms, he received

Antibiotics for five days and did not improve. Upon admission, the patient was oriented, conscious, and alert. Heart rate was 80 beats per minute, blood pressure was 130/75 mmHg, respiratory rate was 19, the temperature was 38.2 °C, and oxygen saturation was 96%. On local examination, the abdomen was soft and lax with no tenderness. Laboratory findings revealed white blood cell count (WBC) to be  $9.27 \times 10^9/L$  (Normal range: 4-10), ESR 6 mm/hr (normal range: 0-15), hemoglobin 14.5 g/dL (normal range: 14-17.9), platelet count  $223 \times 10^9/L$  (normal range: 150-400). Other labs of blood chemistry, serum electrolytes, and urinalysis showed no abnormalities. Chest X-ray was normal. An abdominal ultrasound scan revealed a right subcostal rounded central hyperechoic surrounded by hypoechoic lesion measuring 3x3.9cm most likely to be pseudokidney sign associated with dilated large colon with fecal matter and rim of free fluid seen at Morison's pouch

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suggestive of intussusception / intestinal lipoma for further CT assessment (Figure 1).

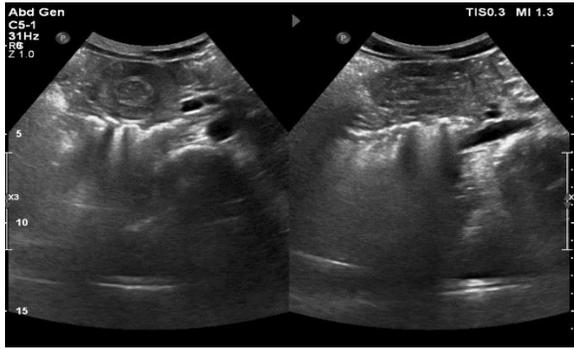


Figure 1 Abdominal ultrasound: Right subcostal hypoechoic lesion measuring 3x3.9cm and hyperechoic at its center.

CT abdomen showed a short segment of the small bowel seen near the center of the abdomen and to the right, demonstrating invagination of the loop with the appearance of target sign in both arterial and venous phases. The findings were suggestive of transient intussusception (Figure 2).



Figure 2 CT abdomen with contrast. Loop invagination with the appearance of target sign in both arterial and venous phases.

Due to the persistence of the abdominal pain and nausea, an exploratory laparotomy was decided. On laparotomy, a Jejunal mass was found at the mesenteric side measuring 3x3cm (Figure 3). It was 45 cm away from the duodeno-jejunal junction. A 10-cm-long resection of the jejunum was performed to take out the mass (Figure 4), and then an end-to-end anastomosis was done. No intussusception was seen intraoperatively despite the picture of the CT scan. Moreover, there were multiple lymph nodes at the site of the mesentery of the jejunum and ileum. Lymph node excisional biopsy was done and was sent to the histopathology along with the resected part of the jejunum. The histopathological analysis reported the

presence of benign ectopic pancreatic tissue with chronic inflammation in addition to a reactive lymph node (Figure 5-7). The postoperative course was smooth, and the patient was discharged on the 6th postoperative day. He was scheduled for follow-up in the outpatient clinic, but he did not attend.

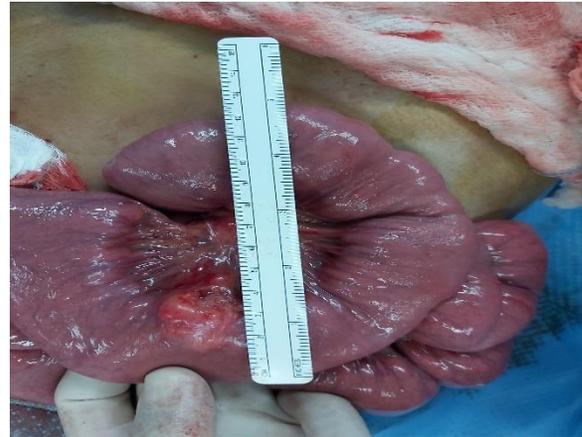


Figure 3 Adherent mass at the mesenteric side of the Jejunal wall.



Figure 4 The resected part of the jejunum with the pancreatic mass.

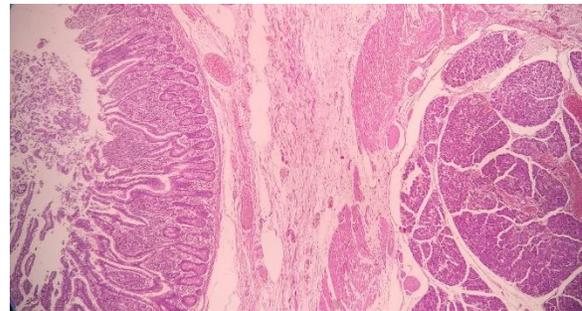


Figure 5 Jejunal tissue with pancreatic acini in the muscularis.

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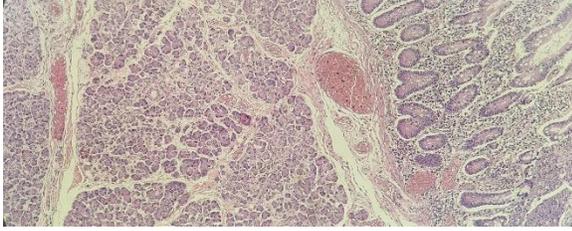


Figure 6 High power view of jejunal mucosa, submucosal pancreatic tissue with acini and ducts.

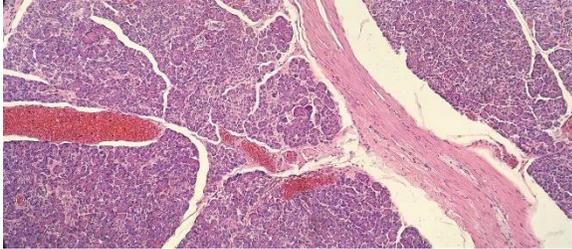


Figure 7 High power view of mature pancreatic tissue in between the smooth muscle bundles of muscularis propria.

### Discussion

Heterotopic pancreas is a pancreatic tissue outside the normal anatomical location. Jean Schultz described a case of pancreatic-gland-like tissue at the base of the ileal diverticulum in 1729, which is commonly believed to be the first case of ectopic pancreas recorded in literature [3]. Heterotopic Pancreas has been reported in different age groups, but it is found commonly between the age of 30 and 60 [4]. Heterotopic Pancreas is found in 1 out of every 500 cases during surgery with a male-to-female ratio of nearly 3:1 [3]. Different locations of HP have been reported in the literature. The most frequent sites of HP are in the upper gastrointestinal tract, specifically the duodenum, stomach, and proximal jejunum. The esophagus, ileum, and Meckel's diverticulum are less common [5]. The exact pathogenesis of HP is controversial, however, one of the most common theories suggests that small portion of the pancreatic tissue separates from the developing pancreas and deposits in a different region during development [6]. Patients who have HP are mostly asymptomatic; however, they might present with nonspecific symptoms such as abdominal pain, weight loss, nausea, and vomiting. Establishment of a pre-operative diagnosis is considered difficult since there is no reliable laboratory marker to confirm the existence of HP [5]. CT scan and MRI are considered good tools to diagnose HP [7]. Other types of investigation such as double balloon enteroscopy and capsule endoscopy have been shown to be successful

in identifying ectopic pancreatic tissue, but most biopsies were inconclusive, thus intraoperative biopsy is considered the gold standard to make the diagnosis [8]. Surgical resection is the treatment of choice for ectopic pancreas when found incidentally [9]. Complications of HP can be related to the mass itself such as bowel obstruction or intussusception, or it can be related to the pancreatic tissue itself such as pancreatitis and pancreatic neoplasms. In our case, no complications occurred [10].

### Conclusion

Heterotopic pancreatic tissue in the jejunum is rare. However, it should be considered in the differential diagnosis of jejunal masses. CT scan and MRI are considered good tools to diagnose the complications caused by HP. Intraoperative biopsy is considered the gold standard to make the diagnosis and surgery is the main treatment. We recommend removing HP if found incidentally during surgery to exclude neoplasia and to prevent pancreatitis and other possible complications.

### Conflict of Interest

None

### Funding

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