Case study

HETEROTOPIC PANCREAS IN A CHILD PRESENTING WITH INTUSSUSCEPTION: A CASE REPORT

Abstract:

Background:

Heterotopic pancreas is most commonly found in the upper gastrointestinal tract, and is often asymptomatic and detected incidentally. Intussusception involving heterotopic pancreatic tissue is a rare condition, in which a portion of the bowel telescopes into an adjacent segment with intraluminal pancreatic tissue as the lead point. It is the most common cause of intestinal obstruction in children in the 6 months-6 years age group.

Case Presentation:

Here we describe a case of heterotopic pancreas presenting with intussusception. Isolated heterotopic pancreas acted as a lead point for intussusception in this child which is a rare occurrence. The child underwent laparotomy and open reduction and made a complete recovery post-operatively.

Conclusion:

To the best of our knowledge, very few cases with such a unique presentation have been reported to date. We emphasize the early recognition and treatment of this condition to ensure the best possible prognosis.

Keywords:

heterotopic, pancreas, intussusception, intestine

Introduction:

Heterotopic pancreas (also referred to as accessory pancreas, aberrant pancreas, pancreatic heterotopia, or pancreatic rest) is an uncommon developmental anomaly, in which pancreatic tissue is found on ectopic sites lacking anatomic and vascular contiguity with the main body of the pancreas. Intussusception is defined as the telescoping of a segment of the gastrointestinal tract into an adjacent one. It is the most common cause of intestinal obstruction in children in the 6 months-6 years age group and is invariably idiopathic.

The presence of heterotopic pancreas (HP) is unusual but not rare with an estimated incidence of 0.2% of upper abdominal operations. Although it can occur throughout the gastrointestinal tract, the majority of cases involve the stomach, duodenum and jejunum, and ileum.

Cases of HP are predominantly asymptomatic and discovered incidentally. In this case, however, the ectopic pancreatic tissue acted as a lead point for intussusception, which resulted in the patient presenting initially with pain abdomen.

Case Report:

A 12-year-old boy presented to the surgical emergency department with acute onset pain abdomen in the epigastric region. His past medical history was unremarkable.

On examination, his vitals were stable. Abdominal examination revealed a sausage-shaped mass in the epigastric region. Initial investigations included a complete blood count, erythrocyte sedimentation rate, renal and liver function tests, all of which were normal.

An abdominal ultrasound revealed a loop of abnormal bowel in the pelvis extending to the right iliac fossa. It was noted that the patient experienced marked tenderness from the ultrasound probe over the right iliac fossa. The bowel loop contained concentric rings of high and low echogenicity, which were highly suggestive of a small bowel intussusception. No proximal dilatation was noted. On this basis, the patient was taken up for a laparotomy and open reduction.

During laparotomy, a long segment of ileal intussusception, measuring (80x45x50mm) was noted. Three small jejunal intussusceptions were also found. The ileal intussusceptions were resected and a primary anastomosis was performed. The jejunal intussusceptions were reduced.

On gross examination, a round polypoid mass measuring (20x20x5.5mm) was noted proximal to the intussusception (Fig 1). On histopathology, ectopic pancreatic tissue was seen in the small bowel(Fig 2).

Fig 1. A round polypoid mass was noted proximal to the intussusception

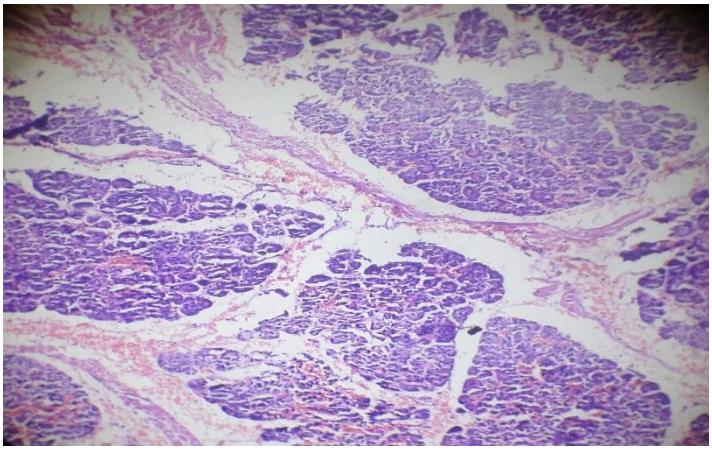

Fig 2. Heterotopic pancreatic tissue is seen on histopathology

The child was kept under observation postoperatively and was discharged. He was symptom-free on follow-up visits and made a complete recovery.

Discussion:

Intussusception is primarily a disease of children with only about 5% of cases occurring in adults [1]. Klob first described the histological appearance of heterotopic pancreas in 1859 [2]. The estimated occurrence of heterotopic pancreas is one per 500 upper abdominal operations and up to 5% of autopsy cases [3][4].

The embryological derivation of heterotopic pancreas is well described [5]. The pancreas is formed from several primitive endodermal evaginations of the primitive duodenal wall. The dorsal diverticulum becomes the body and tail and the ventral portion the head of the pancreas. If one or more of these evaginations remain within the wall of the bowel then these can be carried as longitudinal growth of the intestine continues, leading to ectopic tissue anywhere from the stomach (most common) to the jejunum or ileum (least common). In the latter, HP is usually associated with a Meckel's diverticulum. Intussusception caused by HP is rare but has been described previously [3][6][7].

In adults, successful management of intussusception from any cause will invariably involve resection of the lead-point tissue and at times, segmental resection of the involved intestine, as was in this case [8]. Surgical resection is often recommended for large bowel intussusception in view of the higher rates of malignancy. This possibility should also be borne in mind in cases of small bowel intussusception despite a reported lower incidence.

Conclusion:

To summarize, heterotopic pancreas of the small bowel is rare, and it is usually associated with Meckel’s diverticulum when seen. Isolated heterotopic pancreas of the small bowel is very rare and is usually asymptomatic. In this case, however, the isolated heterotopic pancreas acted as a lead point for intussusception in the child.

After an extensive literature review, it was found that very few cases with such a unique presentation have been reported to date. Most of the cases of intussusception with a

pathological lead point were reduced with a barium enema. In this case, the child was diagnosed preoperatively with abdominal ultrasound and underwent laparotomy and open reduction. The management remains no different from that of intussusception due to other causes.

The child was symptom-free post-operatively and remained symptom-free at follow-up. We reiterate that early recognition and treatment of this condition is imperative to ensure the best possible prognosis.

It is important to palpate the bowel after manual reduction of the intussusception to look for submucosal heterotopic pancreas which may not be visible grossly, as was observed in this case [9]. If submucosal ectopic tissue is found, it is removed with a simple excision, which prevents recurrence and further sequelae [10]. The possibility of malignant disease should also be kept in mind while planning surgery and should be ruled out after a thorough workup.

List of abbreviations:
HP- Heterotopic Pancreas

Consent of patient:
Written informed consent was taken from the patient for the purpose of publishing this case

Consent of ethics:
Ethical approval is not required at our institution for publishing a case report in a medical journal

References:

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Summary:

1.	Patient (Gender, Age)	Male, 12 years old
2.	Final DIagnosis	Heterotopic pancreas presenting with intussusception
3.	Symptoms	Acute onset pain abdomen
4.	Medications	-
5.	Clinical Procedure	Laparotomy and open reduction
6.	Specialty	General surgery