Case Report

Adult duodenojejunal intussusception due to heterotopic pancreas - a rare entity

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Abstract

Approximately 95% of intussusception occurs in children, However it is a rare entity in adults accounting for 0.003% to 0.02 % of all the hospital admissions. Various causes of intussusception are well known, However intussusception caused by heterotropic pancreas is extremely rare and the rarity increases manifolds if it is in the duodenum of an adult and the cause being heterotropic pancreas. We report this rare case of intussusception due to pancreatic heterotropia in 43 year old male who presented with acute pain abdomen.

Key words: heterotropic pancreas; duodenum; jejunum; intussusception

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Introduction

Heterotopic pancreas, a rare pathological entity is defined as presence of pancreatic tissue lacking anatomical and vascular continuity with the pancreas[1]. Majority of the cases have been found incidentally at laprotomy performed for other abdominal diseases. It is usually found in the intestinal tract, with 24-38% been seen in the stomach, 9-36% in the duodenum and 0.5% in the jejunum[2]. Other locations include ileum, Meckel's diverticulum, colon, umbilicus, fallopian tube, gall bladder ,spleen and liver[3]. They rarely occur as intestinal invagination leading to intestinal obstruction in the adults[4]. This pathological condition is difficult to diagnose pre –operatively however its knowledge as a cause of intussusception is mandatory considering the risk of late clinical problems and even malignant transformation in occasional cases. This has encouraged us to report this rare case of duodenojejunal intussusception of duodenum due to pancreatic heterotopia in 43 year old male who presented with acute pain abdomen.

Case report

A 43 year old male patient was admitted in a hospital with complaints of progressive upper abdominal pain , distension, nausea and vomiting for past one week. There was no history of jaundice, anorexia, weight loss, dyspepsia or similar episode in the past. There was no relevant family history. His vitals were normal and the general examination revealed visible gastric peristalsis but no palpable mass. Standard laboratory investigations including hemoglobin, blood counts, blood sugar, renal and hepatic function test, serum amylase and lipase levels were all with in normal limits.

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Ultrasound typically showed the "target sign",characterized by the different hyperechoic-hypoechoic layers of the involved telescoping bowel walls. The characteristics CT features of intussusception include an early target mass with enveloped, eccentrically located areas of low density. With the provisional diagnosis of intussusception laprotomy was done . At laprotomy duodenojejunal intussusception was observed. The intussusception was excised and end-to-end anastamosis was performed.

Gross examination revealed a duodenojejunal intussusceptum measuring 5cm x 3.5cms with a polypoidal mass attached at one end measuring 2.5cm x 2 cm. The mass was covered by an ulcerated mucosa and the cut surface was greyish white homogenous with yellowish specks(Fig.1). Microscopic examination revealed an ulcerated sloughed mucosal surface with dense neutrophillic infiltrate. The underlying muscularis propria showed thick irregular displaced bundles of smooth muscle with a well defined focus of pancreatic lobules and ducts.(Fig.2).Focal ducts showed squamous metaplasia (Fig.3). No evidence of atypia was seen.The histological profile was typical of ectopic pancreatic tissue.

Discussion

An intussusception is the invagination of one segment of the intestine into another, first described by Barbette of Amsterdam in 1674[5]. It is common in children and usually idiopathic. Intussusception is primarily a disease of children with only about 5% of cases occurring in adults[6]. An underlying pathological process is usually identified in over 90% of cases in adults compared to an idiopathic cause in the majority of paediatric cases[4] In general, ileo-colic intussusception is most often reported, but duodenojejunal intussusception is very rare because of the fixed position of the duodenum[7].

Fifty five percent of informed cases occur within the small bowel with 45% in the large bowel. Malignant tumours produced nearly half the cases of colonic intussusception. In contrast predominantly benign tumours caused small bowel intussusception. The cause of intussusception are summarized in Table.1

Table1: Causes of intussusception with their prevalence

Causes	Colonic intussusception	Small bowel intussusception
Malignant tumours (eg.Carcinoid, adenocarcinoma,lymphoma	48%	17%
Benign tumours (eg. Leiomyomas, pancreatic heterotopia)	21%	40%
Other causes (eg. Idiopathic, post-operative)	31%	43%

Other have reported similar statistics although Agha reported nearly 60% of malignant small bowel tumours as a cause of intussusception in a small cohort of 25 patients[8].

Heterotopic pancreas occurs most commonly in the stomach, duodenum and jejunum but has been reported in other locations, also like ileum, Meckel's diverticulum,colon,gall bladder,umbilicus,fallopian tube,mediastinum,spleen and liver[3].

Preoperatively it is very difficult to determine the invagination related to pancreatic tissue because patients usually come to the clinic with the finding of ileus[4].

However, there are some recent reports describing ectopic pancreas in the small bowel discovered by double-balloon enteroscopy or capsular endoscopy[10].

This disease is treated in principle by surgical resection if bowel intussusception or ileus occurs. Moreover physician should be aware that ectopic pancreas in the small bowel may associate with endocrine tumours or carcinoma. However, ectopic pancreas in the small intestine is usually benign. Ectopic pancreas in the small intestine is rarely fatal and patients remains symptomatic in their daily lives, except for when bleeding, bowel intussusception, obstruction or pancreatitis occurs[10].

In conclusion, Heterotopic pancreas a rare cause of small bowel intussusception and most of the time it is encountered accidentally. Its manage-

ment is same as to intussusception by other cause and possibility of endocrine or malignant tumour should be kept in mind while planning surgery. So, we report a rare case of duodenal ectopic pancreas leading to duodenal intussusception. This etiology should be suspected in case of chronic atypical abdominal pain.

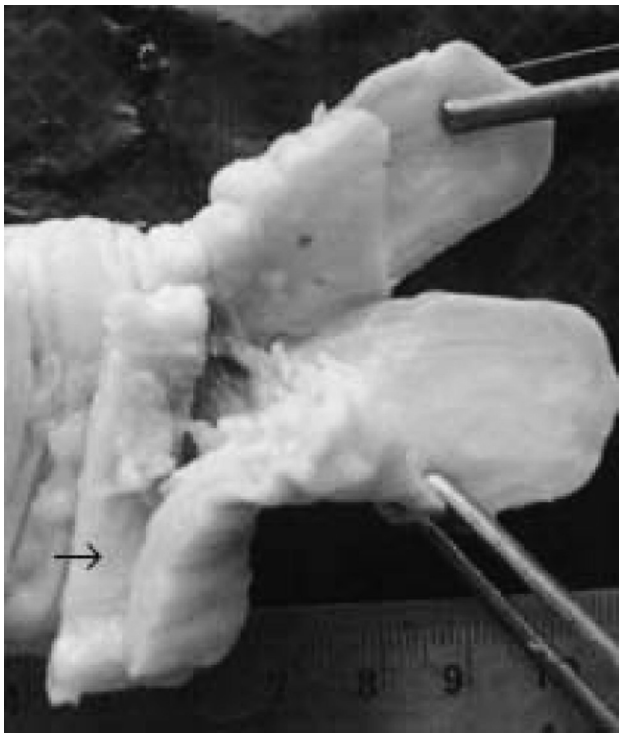

Fig1: Gross examination revealed a duodenojejunal intussusceptum(?) with a

polypoidal mass attached at one end.

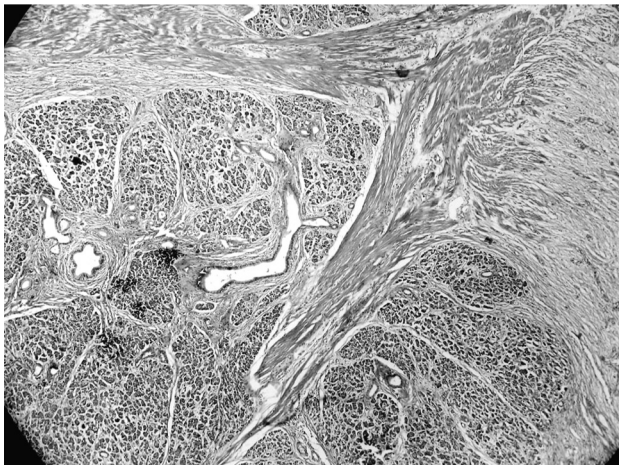

Fig2: Section showing thick irregular displaced bundles of smooth muscle with a well defined focus of pancreatic lobules and ducts. H&E 100 x

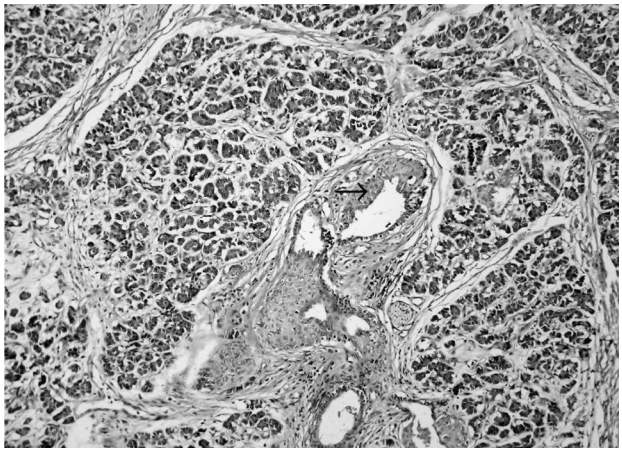

Fig3: Section showing ducts with squamous metaplasia(?).H&E 100 x

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