Massive Gastrointestinal Bleeding in Children: Diagnosis by Enterotomy Introduced Endoscopy

Çocuklarda Massif Gastrointestinal Kanamada Enterotomi Yoluyla Endoskopik Tanı

Geniş Jejunal Gastrik Heterotopide Tanı / Dagnosis in Extensive Jejunal Gastric Heterotopias

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Özet

Çocuklarda tekrarlayan masif gastrointestinal kanamaların kaynağının belirlenmesi oldukça güçtür. Zaman zaman kanamanın sınırlarını belirlemede görüntüleme yöntemleri yetersiz kalabilir. Bu durumda tanı ve tedavi için cerrahi eksplorasyon kaçınılmazdır. Bu çalışmada Treitz ligamanından sonra 10. cm de başlayıp 50. cm e kadar uzanan jejunal gastrik heterotopi (JGH) olgusu sunuldu. Olguya, girişim sırasında enterotomi yoluyla endoskopi yapıldı. Yamalı tarzda yerleşmiş geniş JGH gözlenen jejunal segment tamamen çıkarıldı. Girişim öncesinde nedeni belirsiz bir şekilde aralıklı kan transfüzyonu gerektiren olgu postoperatif ikinci yılında kanamasız olarak izlemine devam edilmektedir.

Anahtar Kelimeler

Gastrik Heterotopi; Gastrointestinal Kanama; Enterotomi Yoluyla Videoendoskopi

Abstract

Determining the origin of an obscure massive and recurrent gastrointestinal (GI) bleeding is a challenging process in children. Sometimes it might be impossible to detect the exact location of bleeding with imaging tools so surgical exploration of abdomen is inevitable for diagnostic and also therapeutic purpose. And hence enterotomy introduced videoendoscopic examination (EIVE) may be the way for determining the exact intraluminal location of GI bleeding. This case report presents a patient who had intraluminal extensive patchy like jejunal gastric heterotopia (JGH) determined by EIVE. JGH starting 10th cm after Treitz ligament and extending 50 cm distally was excised totally. In postoperative follow up, recurrent and massive GI bleeding stopped and she did well in the second year of follow up without requiring transfusion.

Keywords

Gastric Heterotopia; Gastrointestinal Bleeding; Enterotomy Introduced Videoendoscopy

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Introduction

In children, it is sometimes difficult to find the exact location and etiology of gastrointestinal (GI) bleeding. Radiological and scintigraphic investigations might be inconclusive. Moreover, lesions may not lay out around the range of gastroscope or colonoscope. Open surgery may not delineate the pathology. On the other hand during surgery, enterotomy introduced video-endoscopic examination with flexible or rigid scope might be helpful to determine the pathology.

Gastric heterotopia (GH) associated with Meckel's diverticulum or duplication is a well known pathology that causes GI bleeding [1, 2]. Isolated GH in intestine is a rare finding, but we should suspect from isolated segment of GH in patients having sustaining GI bleeding. In this report, we present a patient having a significant recurrent GI bleeding due to a long segment jejunal gastric heterotopia (JGH) determined by enterotomy introduced videoendoscopic examination (EIVE).

Case Report

A 5 years old female was admitted to our department with the symptoms of acute abdomen and rectal bleeding. She had been operated for duedonal atresia, jejunal web and Meckel's diveticulum in newborn period. She is suffering from type I diabetus mellitus and under the control of pediatric endocrinology. During the last two years, she had the complaint of anemia and melena occurring with irregular intervals. She was examined by gastroenteorologist with gastroscopy for two times and by colonoscopy once and also with scintigraphic imaging for two times but no significant pathology was determined. In her last admission, she presented with massive GI bleeding and peritonitis. She was operated and two perforation points were determined in the jejunum. Following the repair, GI bleeding recurred in early postoperative period, and a bleeding duodenal ulcer was determined and cauterized by gastroscopy. Due to continuing GI bleeding and her last scintigraphic investigation showing a suspected bleeding locus in left upper abdomen and umbilicus, she was operated once again and EIVE was performed from the distal jejunum (Fig 1). JGH was determined by EIVE below the 10th cm of ligament Treitz and extending 50 cm distally (Fig 2). The pathologic bowel segment was excised totally. The GH was also shown histopathologically. Postoperative second year was completed and she did well with no complaint.

Discussion

Recurrent rectal bleeding is not an unusual finding in children. Although most of them are due to anal fissure, intussusceptions, anal polyps, Meckel's diverticulum or duplication; other rare causes such as isolated GH shouldn't be underestimated. GH has been identified throughout the gastrointestinal tract including the nasopharinx, tongue, esophagus, small intestine, gallbladder, colon and rectum [3- 9]. The etiological factors with GH are unknown. The presence of heterotopic gastric mucosa without any associated morphological abnormalities, such as Meckel's diverticulum or duplication, is very rare. In our patient, there was a history of Meckel's diverticulum excision in the past. In her last admission, abundant GI bleeding was caused by an extensive long segment JGH. If bleeding recurs after past Meckel's diverticulum excision, a possibility of another isolated segment of GH should be considered.



Figure 1. Enterotomy introduced endoscopy with flexible endoscope

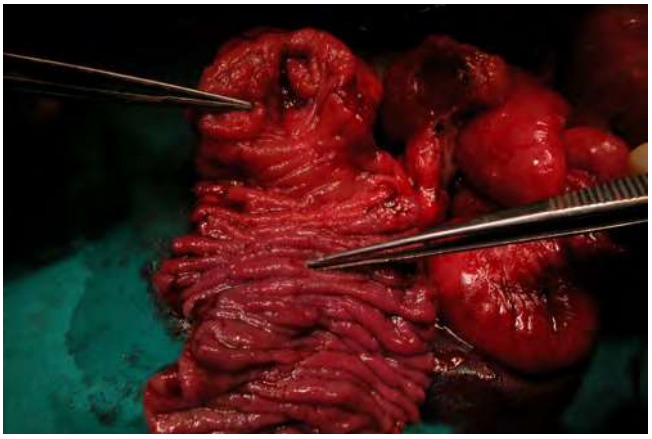


Figure 2. JGH and normal jejunal mucosal appearance

Serious complications because of GH include major GI bleeding, intestinal perforation, megacolon, intussusception due to jejunal polyps , perianal fistula and rectovesical fistula [5, 10-14]. In our case, the first operation was performed for intestinal perforation. Continuing GI bleeding in the early postoperative follow up encouraged us to investigate and find the exact bleeding point. If GI bleeding is a significant preoperative finding and continues in the postoperative follow up of the operations for Meckel's diverticulum, intestinal perforation or duplication; the physician should have a strong suspicion that another segment of the intestine is triggering GI bleeding. EIVE provides an intraluminal exploration of intestinal segments which are not reachable by gastroscope or colonoscope.

The uptake and secretion of the 99mTc pertechnetate by tubular glands of gastric mucosa are often useful to localize foci of ectopic gastric tissue, especially in small bowel distal to the ligament of Treitz where reaching by endoscopy is difficult [15]. Although scintigraphy may diagnose GH, it can't define the exact surgical margins. Several biopsies from the suspected region may detect surgical borders; but if the pathology is extensive or if there are GH islands, it may not be possible to excise the whole segment with GH. Unnecessary excision of a normal bowel segment may also occur. In such cases, EIVE provides both the diagnosis and determination of the borders of the pathologic segments. Transition from the normal intestinal mucosa to the area with GH could be easily observed by EIVE.

Therefore, enterotomy introduced endoscopy should always be in mind for diagnosis and treatment of patients having symptoms causing suspicion of endoluminal mucosal pathologies, especially if other diagnostic modalities are inadequate and the diagnosis is still unclear.

Competing interests

The authors declare that they have no competing interests.

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