

Case Report

Ectopic fundic gland polyp of ileum in a 15-year-old adolescent: a rare case report and literature review

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Abstract: An exceedingly rare case of ectopic fundic gland polyp (FGP) of ileum in an adolescent is reported. A 15-year-old boy was admitted to our hospital with recurrent melaena that had been present for six days. He did not have a medical or family history of familial adenomatous polyposis (FAP), nor have a history of previous proton pump inhibitors (PPI) medication. Physical examination was unremarkable except for an anemic appearance. Laboratory examination showed moderate anemia. Gastroscopy showed chronic gastritis with bile reflux. Capsule endoscopy indicated that there was a space-occupying lesion in the small intestine, and its surface was covered with a few villi. Contrast-enhanced computed tomography (CT) showed a well-defined 1.8 × 1.4 cm nodular medium-density shadow in the small intestine located on the lower-right pelvic cavity. A small laparotomy incision was created in the lower-right abdomen, according to the accurate preoperative localization of the site of lesion using the high-resolution CT scan. A 2.0 × 1.5 cm extraluminal protruding mass with moderate hardness were observed at the distal ileum during the operation. The patient underwent a segmental resection of the distal ileum. Postoperative paraffin section revealed ectopic FGP of ileum and thus, a conclusive diagnosis was achieved. The patient had a good prognosis after surgery.

Keywords: Ectopic, fundic gland polyps, ileum, adolescent

Introduction

Fundic gland polyps (FGPs) are usually located in the fundus and body of the stomach and rarely cause upper gastrointestinal symptoms [1]. They are most frequently seen in middle-aged women [2]. To the best of our knowledge, the case presented here is one very rarely reported in literature, showing the occurrence of ectopic fundic gland polyp (FGP) of ileum in a 15-year-old boy with recurrent melaena.

Case report

A 15-year-old boy presented with a six-day history of recurrent melaena. He had no past history of similar disease or medication. Physical examination was unremarkable except for an anemic appearance. Laboratory examination showed moderate anemia (hemoglobin level, 77 g/L). Gastroscopy showed chronic gastritis with bile reflux and colonoscopy showed no abnormality.

Capsule endoscopy (**Figure 1A**) indicated that there was a space-occupying lesion in the small intestine, and its surface was covered with a few villi. Contrast-enhanced computed tomography (CT) (**Figure 1B-D**) showed a well-defined 1.8 × 1.4 cm nodular medium-density shadow in the small intestine located on the lower-right pelvic cavity. There was obviously uneven enhancement during arterial phase, and relatively uniform high density shadow during venous phase and parenchymal phase.

According to the preoperative localization of the site of lesion using the high-resolution CT scan, the patient underwent a small laparotomy incision in the lower-right abdomen following the initial diagnosis, at which time a 2.0 × 1.5 cm extraluminal protruding mass with moderate hardness were observed at the distal ileum. The distance from ileocecum to the mass in the distal ileum was approximately 50.0 cm (**Figure 2A**). A segmental resection of the distal ileum was performed. Macroscopic assessment of

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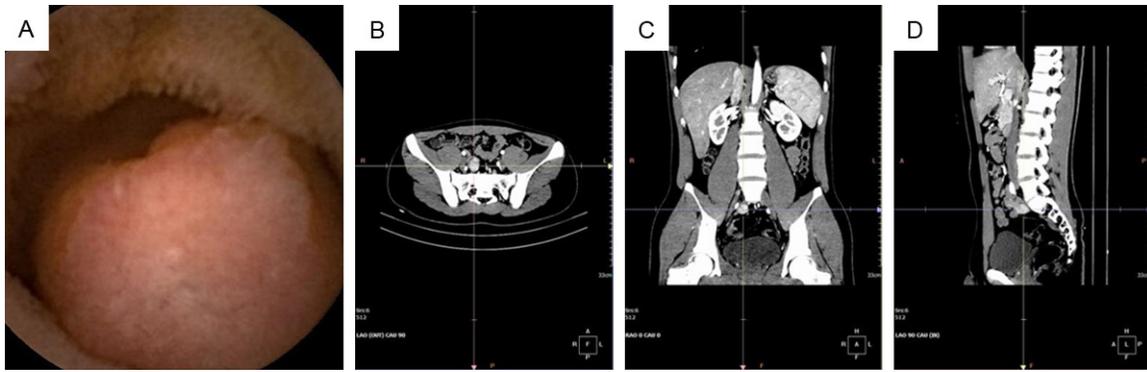


Figure 1. A: Capsule endoscopy indicated that there was a space-occupying lesion in the small intestine, and its surface was covered with a few villi. B-D: Contrast-enhanced computed tomography (CT) showed a well-defined 1.8 × 1.4 cm nodular medium-density shadow in the small intestine located on the lower-right pelvic cavity. There was obviously uneven enhancement during arterial phase, and relatively uniform high density shadow during venous phase and parenchymal phase.

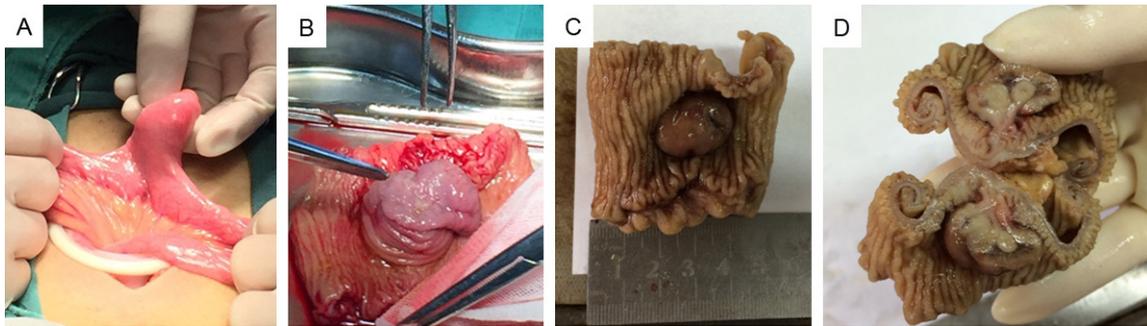


Figure 2. A: A 2.0 × 1.5 cm extraluminal protruding mass with moderate were observed in the distal ileum. The distance from ileocecum to the mass in the distal ileum was approximately 50.0 cm. B-D: Macroscopic assessment of the resected specimen showed the presence of a bulging 2.2 × 1.5 × 1.2 cm mass with greyish-white section and moderate hardness.

the resected specimen showed the presence of a bulging 2.2 × 1.5 × 1.2 cm mass with greyish-white section and moderate hardness (**Figure 2B-D**). Postoperative paraffin section revealed ectopic FGP of ileum. Ectopic gastric mucosa, fundic gland hyperplasia and mucosa of ileum coexisting in the same lesion (**Figure 3A**).

Cystic dilatation of partial hyperplastic fundic glands were seen, the surface of which were covered with mucus columnar epithelium cells (**Figure 3B**). The surgical margins of the specimen after segmental resection were negative. The postoperative course was uneventful.

Discussion

FGPs are multiple, small, and sessile polyps in the fundus and body of the stomach. FGPs are the most common type of gastric polyps that

occur in sporadic and syndromic forms, and are usually benign [1-5]. Histologically, FGPs are characterized by microcysts, cystically dilated and irregularly proliferated fundic glands [1-4, 6]. FGPs were previously regarded as fundic gland hyperplasia, cystic hamartomatous polyps, and polyps with cyst of the gastric fundic gland. The pathogenesis of FGPs is not well understood. Their potential association with proton pump inhibitors (PPI) was suggested in some case reports [3, 4]. Most of FGPs are sporadic, though they are found in many patients with familial adenomatous polyposis (FAP) [7]. Our patient did not have a medical or family history of FAP, nor have a history of previous PPI medication. To the best of our knowledge, the occurrence of ectopic FGP of ileum in 15-year-old boy is exceedingly rare in the literature. The definitive diagnosis of ectopic FGP of ileum relies on histopathological examination. Sur-

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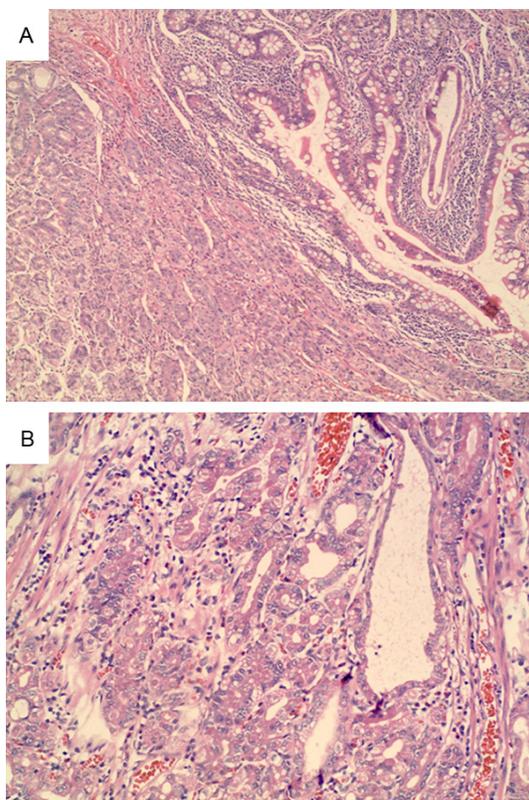


Figure 3. A: Ectopic gastric mucosa, fundic gland hyperplasia and mucosa of ileum coexisting in the same lesion. Ectopic gastric mucosa and fundic gland hyperplasia were seen at the lower left side of the figure, and mucosa of ileum were seen at the upper right side of the figure. (Hematoxylin-eosin stain; original magnification $\times 100$). B: Cystic dilatation of partial hyperplastic fundic glands were seen, the surface of which were covered with mucus columnar epithelium cells (Hematoxylin-eosin stain; original magnification $\times 200$).

gical resection should be recommended for this type of disease. The patient underwent a small laparotomy incision in the lower-right abdomen following the initial diagnosis. The accurate preoperative localization of the site of lesion using the spiral CT scan is a very useful method, thus avoiding unnecessary extended median laparotomy incision and reduce patient trauma. The patient has a good prognosis after surgery.

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Disclosure of conflict of interest

None.

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References

- [1] Lee HS, Choi Y, Jung JY, Sung YJ, Ahn DW, Jeong JB, Kim BG, Lee KL, Koh SJ and Kim JW. Do we need colonoscopy verification in patients with fundic gland polyp? *Intest Res* 2016; 14: 172-177.
- [2] Kinoshita Y, Tojo M, Yano T, Kitajima N, Itoh T, Nishiyama K, Inatome T, Fukuzaki H, Watanabe M and Chiba T. Incidence of fundic gland polyps in patients without familial adenomatous polyposis. *Gastrointest Endosc* 1993; 39: 161-163.
- [3] Matsukawa A, Kurano R, Takemoto T, Kagayama M and Ito T. Chief cell hyperplasia with structural and nuclear atypia: a variant of fundic gland polyp. *Pathol Res Pract* 2005; 200: 817-821.
- [4] Tazaki S, Nozu F, Yosikawa N, Imawari M, Suzuki N, Tominaga K, Hoshino M, Suzuki S and Hayashi K. Sporadic fundic gland polyp-related adenomas occurred in non-atrophic gastric mucosa without helicobacterpylori infection. *Dig Endosc* 2011; 23: 182-186.
- [5] Jeong YS, Kim SE, Kwon MJ, Seo JY, Lim H, Park JW, Kang HS, Moon SH, Kim JH and Park CK. Signet-ring cell carcinoma arising from a fundic gland polyp in the stomach. *World J Gastroenterol* 2014; 20: 18044-18047.
- [6] Hongo M, Fujimoto K; Gastric Polyps Study Group. Incidence and risk factor of fundic gland polyp and hyperplastic polyp in long-term proton pump inhibitortherapy: a prospective study in Japan. *J Gastroenterol* 2010; 45: 618-624.
- [7] Winkler A, Hinterleitner TA and Langner C. Giant fundic gland polyp mimicking a gastric malignancy. *Endoscopy* 2007; 39: E34.