

Case Report

Transpyloric Prolapse of a Pedunculated Polypoid Gastric Carcinoma: A Case Report and Review of the Literature

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Gastroduodenal intussusception is not a common clinical condition. It is usually caused by transpyloric prolapse of a benign gastric lesion into the duodenum. In the present report, the authors present an extremely rare case of gastroduodenal intussusception in which gastric carcinoma served as the leading point. Pre-operative diagnosis was made from endoscopy and biopsy. The patient was treated successfully by subtotal gastrectomy with D2 lymph node dissection. The clinical presentation, diagnosis, and management of this entity were discussed and the literature was reviewed. Both the condition itself and the leading tumor, gastric carcinoma, are extremely rare and to the authors' knowledge. This is the first report in Thailand.

Keywords: Gastroduodenal intussusception, Transpyloric prolapse, Gastric cancer

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Gastroduodenal intussusception is a rare condition that is usually caused by the prolapse of a gastric neoplasm into the duodenum^(1,2). The lead point of the intussusception is usually a benign gastric tumor^(3,4). Gastroduodenal intussusception is a very rare complication of a polypoid gastric carcinoma or malignant gastric polyp.

The authors present here a unique case of pedunculated polypoid gastric carcinoma prolapsing into the duodenum and caused intermittent gastric outlet obstruction.

The present study was conducted with the approval of the institutional ethics boards of the authors' hospital.

Case Report

A 54-year-old woman presented with intermittent symptoms of epigastric pain, nausea and vomiting for a period of 1 month. Her physical examination was unremarkable for mass, tenderness or peritoneal signs. On admission, her laboratory tests

were within normal limits. The plain abdominal radiography did not show any dilated bowel loops. Ultrasonography of the upper abdomen was normal. Gastrosocopy showed a polypoid mass with a stalk originating in the gastric body and prolapsing through the pylorus into the duodenum, thus obstructing the gastric outlet (Fig. 1). The polyp was easily reduced into the stomach during the examination (Fig. 2, 3). Endoscopic biopsy of the polypoid mass revealed gastric adenocarcinoma. At laparotomy, a polypoid

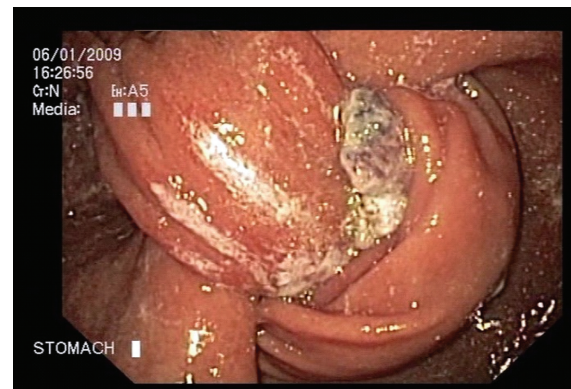


Fig. 1 Gastrosocopic view of pedunculated gastric mass prolapsing through the pylorus

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Fig. 2 Gastrosopic view showed prolapsed pedunculated gastric mass being reduced



Fig. 3 Gastrosopic view after complete reduction of mass showing a pedunculated gastric polyp

mass was found at the gastric body of the stomach. There was no evidence of metastatic spread. Subtotal gastrectomy with D2 LND and Billroth II anastomosis was performed. Postoperative recovery was uneventful. Histological examination of the surgical specimen revealed well-differentiated adenocarcinoma, size 4.5 x 3.5 x 3 cm, invading to submucosa with free resected margins. Lymph nodes were all negative in 33 examined nodes (pT1, N0, M0). She remains asymptomatic during the follow-up period of eight months.

Discussion

Adult intussusception is rare, accounting for only 5% of all intussusception and cause about 1% of patients with bowel obstruction⁽⁵⁻⁹⁾. However, a specific leading point is identified in more than

90% of cases^(5,6,10). Symptoms are often chronic, with intermittent abdominal pain being the main symptoms^(7,9,11). Unlike intussusception in children, an acute abdomen is a rare presentation in adults⁽⁷⁾. As symptoms are non-specific and vague, diagnostic imaging plays the main role in diagnosis⁽⁵⁾.

Intussusception can occur at any site in the GI tract^(5,6). In the adult, 90% occur in the small or large bowel and the remaining 10% involve the stomach⁽³⁾. Gastroduodenal intussusception is reported to be the least frequent type of all GI intussusception^(3,12,13). The rarity of this condition is due to the relative fixity of the esophagogastric junction and pylorus of the stomach and the duodenum compared with the rest of the GI tract^(3,13). It is caused by intussusception of the gastric remnant through a gastrojejunal anastomosis or occurs secondary to a mobile neoplasm of the stomach that prolapse through the pylorus into the duodenum with subsequent invagination of a portion of the gastric wall⁽⁴⁾. Most of these gastric tumors were benign lesions including inflammatory fibroid polyp⁽¹⁴⁾, hyperplastic polyp⁽¹⁵⁻²¹⁾, lipoma^(3,4,12), adenoma⁽²⁾, GIST^(13,22-24) and gastric heterotopia⁽²⁵⁾. Gastroduodenal intussusception due to gastric carcinoma is very rare. The intussusception can present as gastric outlet obstruction either as an intermittent problem or as complete obstruction⁽¹³⁾. Only four cases of acute pancreatitis secondary to a prolapsed gastric polyp into the duodenum and compressing the ampula of Vater have been reported^(18,25-28). Previous cases of gastric neoplasm prolapsing into the duodenum have been demonstrated on UGI studies, sonography, CT scan, and endoscopy. Sonography has been used for the diagnosis of intussusception, particularly in children^(5,29). Ultrasound can show characteristic features of this condition. Including, the target or bull's eye or doughnut sign on transverse view and the pseudokidney sign or sandwich appearance in the longitudinal view^(5,9,29). For the diagnosis of adult intussusception, CT scan is widely regarded as the modality of choice^(3,5-8,14). The appearance of a bowel-within-bowel configuration (outer intussusciens and the central intususceptum) with or without contained fat and mesenteric vessels is pathognomonic^(6-9,11,23). In gastroduodenal intussusception, CT scan showed characteristic patterns of four layers of bowel wall (partially inverted sock) at the pylorus and a mass in the duodenum^(7,8).

The present report described normal abdominal ultrasonography, suggesting that sonography may not be a modality of choice for

the differential diagnosis of intermittent symptoms of gastroduodenal intussusception in adults. In the authors' case, gastrointestinal intussusception secondary to mobile pedunculated gastric carcinoma that prolapsed into the duodenum was found on gastroscopy for intermittent symptoms of gastric outlet obstruction. This is due to the intussusception being recurrent and spontaneously reducible. Although pedunculated gastric polyps are usually benign, they have a tendency of malignancy when they are larger than 2 cm in diameter^(17,29-31), as in the presented case.

Only a few cases of gastric carcinoma prolapsing through the pylorus and causing gastric outlet obstruction have been reported. To the authors' knowledge, this is the first report in Thailand and there are only seven cases have been reported in the international literature^(28,32-36). However, in Japan 35 cases have been reported during the past 46 years^(29,35,37). Both the condition itself and the leading tumor, gastric carcinoma, are extremely exceptional. A diagnosis of this very rare condition was established pre-operatively by gastroscopy and endoscopic biopsy. The most important factor for establishing the diagnosis is awareness of the possibility of intussusception occurring in an adult patient with intermittent abdominal symptoms, especially those with prior episodes of partial gastric outlet obstruction.

Conclusion

Gastroduodenal intussusception is a rare clinical condition. A case of gastroduodenal intussusception secondary to transpyloric prolapse of a primary gastric carcinoma is presented. Endoscopy and biopsy are essential for a correct preoperative diagnosis and proper management. A review of the literature was provided.

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Potential conflicts of interest

None.

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มะเร็งกระเพาะอาหารแบบโพลีปีลผ่านไพโลรัส: รายงานผู้ป่วยและบททบทวนวรรณกรรม

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ภาวะลำไส้กลืนกันแบบกระเพาะอาหารเข้าสู่ลำไส้เล็กส่วนต้นพบได้ไม่บ่อย สาเหตุส่วนใหญ่มักเกิดจากเนื้องอกชนิดไม่ร้ายแรงของกระเพาะอาหารเปลี่ยนผ่านปลายกระเพาะอาหาร เข้าสู่ลำไส้เล็กส่วนต้น ผู้นิพนธ์ได้รายงานผู้ป่วยที่มีภาวะลำไส้กลืนกันแบบกระเพาะอาหารเข้าสู่ลำไส้ส่วนต้น ซึ่งมีสาเหตุจากมะเร็งกระเพาะอาหารเป็นจุดเริ่มต้นซึ่งพบได้น้อยมาก การวินิจฉัยก่อนผ่าตัดได้จากการทำการส่องกล้องดูกระเพาะอาหาร และการตัดชิ้นเนื้อส่งตรวจทางพยาธิวิทยาผู้ป่วยได้รับการรักษาสำเร็จ ด้วยการผ่าตัดกระเพาะอาหารออกร้อยละ 80 และเลาะต่อมน้ำเหลืองออกจนถึงชั้นที่สอง ผู้นิพนธ์ได้บรรยายอาการ อาการแสดง การวินิจฉัยโรค และการรักษา และบททบทวนวารสารเกี่ยวกับภาวะนี้โดยละเอียด ภาวะนี้พบได้น้อยมาก ทั้งภาวะลำไส้กลืนกันแบบกระเพาะอาหารเข้าสู่ลำไส้เล็กส่วนต้น และการมีสาเหตุจากมะเร็งกระเพาะอาหาร และรายงานนี้เป็นรายงานแรกของประเทศไทย
