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## CASE REPORT

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# Gastroduodenal Intussusception Secondary to Hyperplastic Polyps with Adenocarcinoma

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### ABSTRACT

*Gastroduodenal intussusception is uncommon. Most such cases have an underlying condition as a lead point. We report a case of gastroduodenal intussusception secondary to conglomerated hyperplastic polyps that associated with severe dysplasia and focal intramucosal adenocarcinoma.*

*Key Words: Adenocarcinoma; Intestinal polyps; Intussusception; Stomach*

## 中文摘要

### 含腺癌的增生息肉導致胃十二指腸腸套疊

李家灝、朱志揚、鄧業勤、程越、張嘉妍

胃十二指腸腸套疊是不常見的。大多數病例有潛在疾病為誘因。本文報告一例集結性增生息肉導致胃十二指腸腸套疊，其息肉有嚴重發育不良和局灶性粘膜內腺癌。

### INTRODUCTION

Intussusception is a condition in which the full thickness of a portion of the gastrointestinal tract invaginates into the immediately adjacent portion. Gastroduodenal intussusception in which the stomach wall telescopes into the duodenum is uncommon.<sup>1,2</sup> Most such cases have an underlying condition (benign or malignant) as a lead point.<sup>1-8</sup> Gastric hyperplastic polyps are the most common type of non-fundic gland gastric polyps incidentally found during endoscopy.<sup>9,10</sup> They usually occur in the antrum and are rarely associated with dysplasia or carcinoma, with the reported risk being 0.6% to 19%.<sup>2</sup> Two cases of gastroduodenal intussusception

caused by hyperplastic polyp have been reported, despite its high prevalence and its antral location.<sup>1,11</sup> We report a case of gastroduodenal intussusception secondary to conglomerate hyperplastic polyps that associated with severe dysplasia and focal intramucosal adenocarcinoma.

### CASE REPORT

In September 2014, a 58-year-old woman presented to Pamela Youde Nethersole Eastern Hospital with anaemia (haemoglobin level, 8.3 g/dl). Eight years earlier, she had presented with mild epigastric pain and pernicious anaemia but was lost to follow-up. Stool for

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occult blood was positive. Physical examination was unremarkable. Oesophagogastroduodenoscopy revealed an irregular mass extending from the pylorus to D2/3 region, but biopsy of the mass revealed no evidence of malignancy.

Radiography of the abdomen showed inferior displacement of the transverse colon towards the pelvis, indicating a large lesion pushing the transverse colon (Figure 1). Contrast-enhanced computed tomography (CT) of the abdomen and pelvis revealed an intussusception in which the distal portion of the stomach together with mesenteric fat was telescoped



**Figure 1.** Radiograph showing inferior displacement of the transverse colon towards the pelvis, indicating a large lesion pushing the transverse colon.

into the proximal duodenum, and an irregular contrast-enhancing lesion was noted at the leading region of the intussusceptum (Figure 2). No sign of bowel ischaemia was detected. The biliary system was mildly dilated.

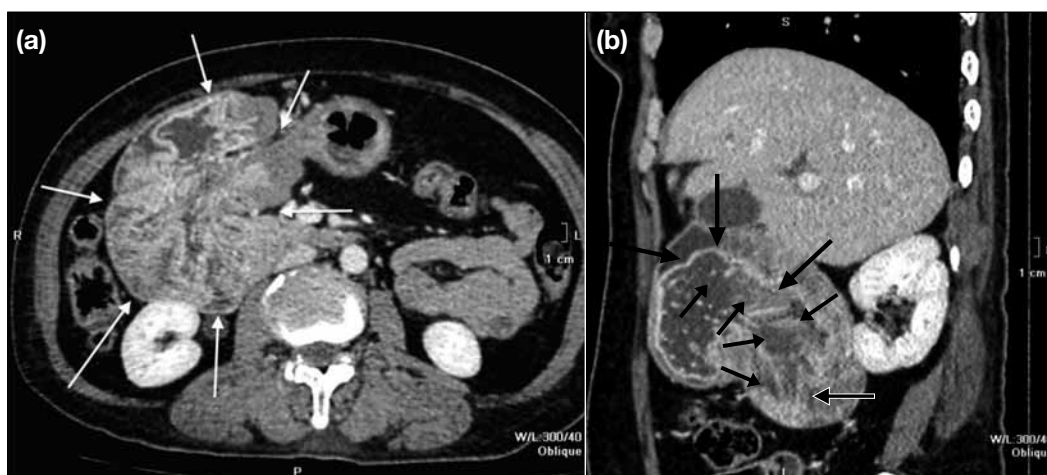
An emergency endoscopy revealed a small gastric polyp at the stomach body, a large polypoid mass at the gastric antrum, and another probable mass at the pylorus. Full reduction of the gastroduodenal intussusception was unsuccessful. Biopsy of the lesions revealed no evidence of malignancy.

Two months later, the patient underwent distal gastrectomy. The specimen revealed a bunch of pedunculated polyps (1-4 cm) in the antrum forming a conglomerate polyp (measuring 12.5 cm x 12 cm) [Figure 3a]. The gastric mucosa was redundant. Microscopy revealed severe dysplasia and focal well-differentiated adenocarcinoma in large hyperplastic polyps (Figure 3b). The tumour showed no invasion of the muscularis mucosae or beyond. No tumour deposits were detected in the omentum.

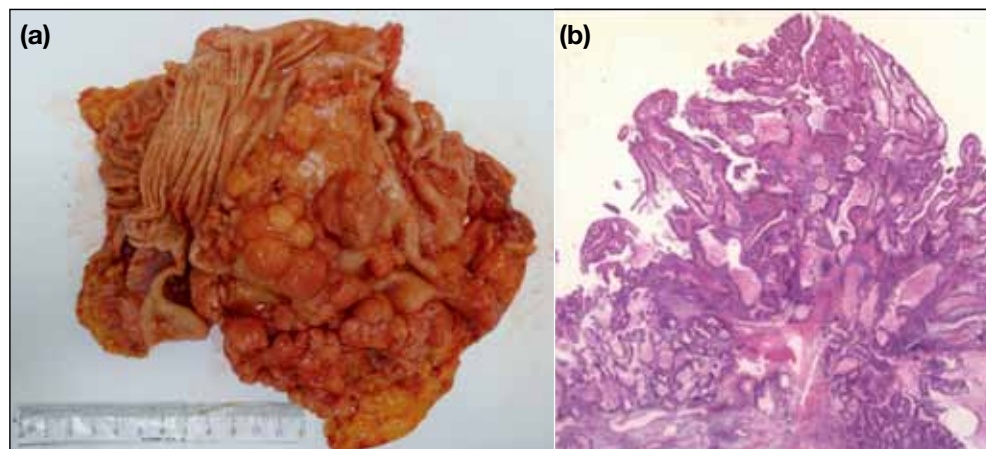
At 17-month follow-up, the patient had recovered uneventfully.

## DISCUSSION

Intussusception is rare in adults and a specific lead point is identified in more than 90% of cases; this differs to cases in children.<sup>12</sup> Gastroduodenal intussusception is uncommon because it is unusual for a mass in the stomach to intussuscept into a much smaller duodenal lumen.<sup>1,2,4</sup> Most such cases are secondary to a benign lead point such as gastrointestinal stromal tumour, lipoma, hyperplastic polyp, or Ménétrier disease.<sup>1-5</sup> Gastroduodenal intussusception secondary to gastric



**Figure 2.** Contrast-enhanced computed tomography showing (a) the distal portion of the stomach telescoped into the proximal duodenum together with mesenteric fat (outlined by arrows), and (b) an irregular contrast-enhancing mass at the leading point of the intussusceptum (outlined by arrows).



**Figure 3.** (a) The specimen showing a bunch of pedunculated polyps that form a conglomerated mass with redundant mucosa. (b) Exuberant proliferation of foveolar glands that are tortuous and dilated with dysplasia, and focal malignant transformation into intramucosal adenocarcinoma (H&E, x 200).

carcinoma is uncommon.<sup>6,7</sup>

Clinical symptoms of gastroduodenal intussusception vary from asymptomatic, mild chronic intermittent epigastric pain, to acute gastric outlet obstruction with vomiting, to pancreatitis.<sup>1-8</sup> One patient with gastroduodenal intussusception secondary to a large hyperplastic polyp was reported to present with acute symptoms.<sup>1</sup> Our patient experienced only mild symptoms despite similar underlying pathology.

In the past, the diagnosis of gastroduodenal intussusception was confirmed by barium studies with features that included foreshortening of the distal stomach, prepyloric outpouching of the telescoped gastric wall, and convergence of gastric folds towards antrum.<sup>8</sup> Nowadays, CT is the imaging modality of choice.<sup>1-5,7</sup> Multi-detector CT can clearly depict the anatomical details of the intussusceptum, intussuscepti, and the adjacent organs, especially with curved multiplanar reformatted images.<sup>3</sup> Dilatation of the pancreatic and biliary tree can be seen when the pancreatic and biliary flow is obstructed by gastroduodenal intussusception.<sup>3,4</sup>

Hyperplastic polyp is the most common non-fundic gland polyp<sup>9,13</sup> and is associated with *Helicobacter pylori* infection, chronic gastritis, and pernicious anaemia.<sup>9,10,13</sup> It is most commonly found in the gastric antrum.<sup>10</sup> Most gastric hyperplastic polyps are benign, but 0.6% to 19% of them contain neoplasm (dysplasia or carcinoma).<sup>9,10</sup> Risk factors associated with neoplasm in hyperplastic polyps include patient age, polyp size (>1 cm), and lobulation.<sup>10</sup>

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