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Giant Gastric Polypoid Adenoma with High-Grade Dysplasia: A Case Report

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Abstract | **Case Report**

We report the case of a 72-year-old woman, followed for type 2 diabetes, referred for progressive epigastric pain and iron-deficiency anemia. Upper gastrointestinal endoscopy revealed a giant sessile gastric polypoid lesion located in the antrum–fundus, with an irregular friable surface. Multiple biopsies were inconclusive, showing no evidence of malignancy. Abdominal CT did not demonstrate locoregional invasion or secondary lesions. Due to the size, symptomatic anemia, and inability to achieve complete endoscopic resection, surgical management was decided. The patient underwent atypical gastric resection via laparotomy. The resected specimen measured 8 cm in largest diameter. Histopathological examination showed a tubulovillous adenoma with high-grade dysplasia, without invasive carcinoma, and negative resection margins. The non-tumoral mucosa revealed chronic active follicular gastritis with glandular atrophy, intestinal metaplasia, and marked *Helicobacter pylori* infection. Postoperative course was uneventful, and the patient was discharged on day 5. This case highlights the importance of considering surgical resection in large symptomatic gastric polyps with high dysplastic potential, particularly when biopsies are non-diagnostic.

Keywords: Gastric Polyp, Tubulovillous Adenoma, High-Grade Dysplasia, Iron-Deficiency Anemia, Surgery.

INTRODUCTION

Gastric polyps are frequently detected during endoscopy, with a reported prevalence of 0.5–23% (Carmack *et al*., 2009). Among them, gastric adenomas represent only 6–10% but are clinically important because of their malignant potential, particularly when lesions are large, villous, or associated with high-grade dysplasia (Allen *et al*., 2008). While most adenomas are asymptomatic, giant lesions may present with anemia, abdominal pain, or obstructive symptoms (Sathirawich *et al*., 2023).

Endoscopic resection is the standard management, but surgery remains necessary for very large or unresectable lesions, or when biopsy fails to exclude carcinoma (Park *et al*., 2020). We report here a case of a giant gastric adenoma with high-grade dysplasia treated by conservative surgical resection, highlighting the role of surgery when endoscopic management is not feasible.

CASE REPORT

A 72-year-old woman with type 2 diabetes treated with oral agents and no prior digestive history was referred for evaluation of progressive epigastric pain of several weeks' duration. The pain was non-radiating, unrelated to meals, and not associated with nausea or vomiting. She reported recent fatigue without weight loss or overt gastrointestinal bleeding.

Laboratory tests revealed hypochromic microcytic anemia (Hb 9.5 g/dL; MCV 76 fL; ferritin 8 µg/L) and mildly elevated CRP (15 mg/L). Fasting glucose was 1.35 g/L with HbA1c 6.8%, indicating moderately controlled diabetes. Clinical examination was unremarkable.

Esophagogastroduodenoscopy showed a giant sessile polypoid lesion in the antrum-fundus region with an irregular, friable surface. Multiple biopsies were inconclusive but suggested high-grade dysplasia, prompting surgical resection. Abdominal-pelvic CT scan showed no metastases or pathological lymph nodes.

The patient underwent laparotomy. A polypoid mass arising from the greater curvature was identified. An atypical gastric resection with a 2 cm macroscopic margin was performed via gastrotomy, followed by two-layer closure (Figure 1). The specimen measured 8 × 4.7 × 2.7 cm, weighing 58.5 g.

Histopathology revealed a tubulovillous adenoma with high-grade dysplasia and clear margins, without evidence of invasive carcinoma. Non-tumorous mucosa showed active follicular gastritis, mild atrophy, intestinal metaplasia, and marked Helicobacter pylori infection.

Postoperative recovery was uneventful, with gradual reintroduction of oral intake. The patient was discharged on postoperative day 5.

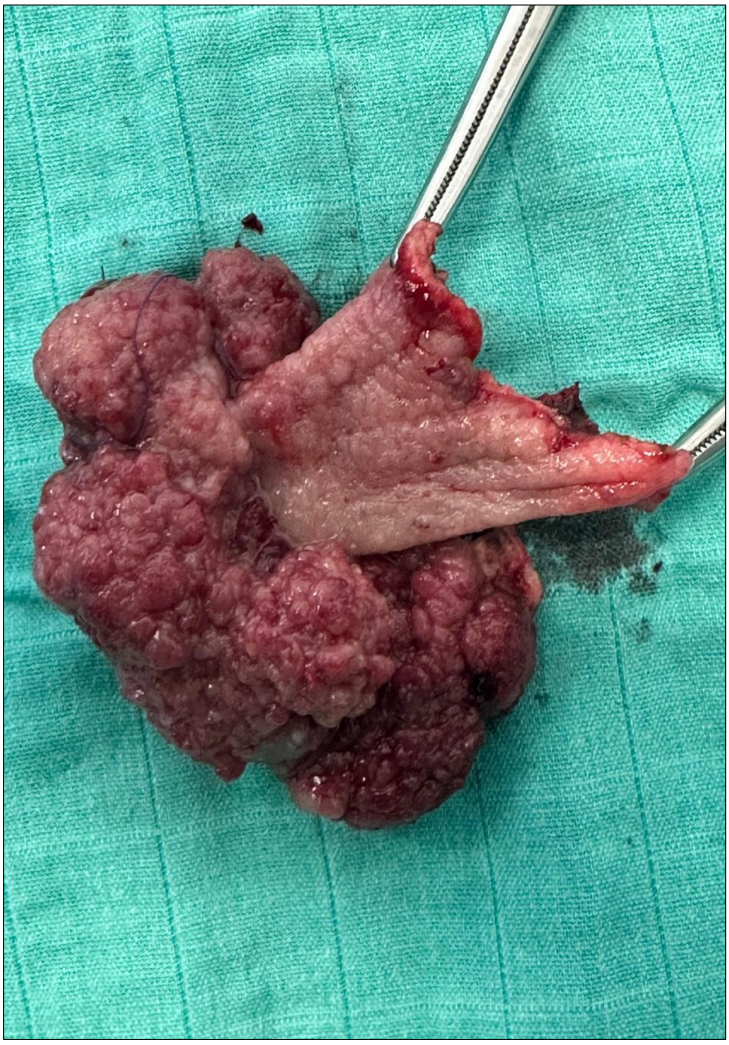

Figure 1: Operative image of the polyp

DISCUSSION

Epidemiology

Gastric adenomas are uncommon, representing approximately 6–10% of all gastric polyps (Park *et al*., 2001). They occur more frequently in elderly patients and are often associated with *Helicobacter pylori* gastritis, intestinal metaplasia, and atrophic changes (Okamoto *et al*., 2021). Giant gastric adenomas (≥3–5 cm) are exceedingly rare, with only sporadic case reports in the literature (Kaczmarek *et al*., 2020; Sathirawich *et al*., 2023). In our patient, the lesion measured 8 cm, placing it within the "giant" category.

Risk of Malignant Transformation

Gastric adenomas are well recognized as precancerous lesions. The overall malignant transformation rate ranges between 10–30%, depending on size, histological subtype, and the grade of dysplasia (Park *et al*., 2001; Okamoto *et al*., 2021). Villous and tubulovillous adenomas, particularly when large or associated with high-grade dysplasia, present the highest risk, with some reports showing carcinoma in up to 40–45% of giant lesions (Sathirawich *et al*., 2023). In our case, histology confirmed a tubulovillous adenoma with high-grade dysplasia but no invasive carcinoma, highlighting the value of complete excision for definitive diagnosis.

Syndromic Associations

Gastric adenomas may occur sporadically or in association with hereditary cancer syndromes such as familial adenomatous polyposis (FAP), Peutz–Jeghers syndrome, and MUTYH-associated polyposis (Eltelbany *et al*., 2023). In such cases, adenomas may be multiple and carry an even higher malignant potential. Our patient had no family history or clinical features suggestive of a polyposis syndrome.

Clinical Presentation

Most gastric adenomas are asymptomatic and incidentally discovered during endoscopy. When symptomatic, they typically present with iron-deficiency anemia, occult gastrointestinal bleeding, abdominal discomfort, or epigastric pain (Sathirawich *et al*., 2023). Our patient presented with iron-deficiency anemia and epigastric pain, consistent with the literature.

Diagnostic Challenges

Endoscopic biopsy is the standard initial diagnostic tool. However, in large or heterogeneous lesions, superficial biopsies may underestimate malignancy. Discordance between biopsy and final histopathology after resection has been well documented (Park *et al*., 2020). This was reflected in our observation, where initial biopsies were inconclusive, and only surgical resection allowed definitive histological assessment.

Treatment options

Management of gastric adenomas depends on lesion size, morphology, histology, and technical feasibility.

- **Endoscopic resection**: Endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) are considered first-line for most gastric adenomas. Large lesions can also be managed with advanced techniques such as **two-stage endoscopic resection (TSER)** (Takeuchi *et al*., 2024). Eltelbany *et al*., (2023) reported successful ESD of a large sessile gastric adenoma in a FAP patient. Similarly, Kaczmarek *et al*., (2020) described a giant fundic adenoma resected endoscopically. However, these procedures require high expertise and carry risks of bleeding and perforation, especially for giant lesions.
- **Surgical resection**: Indicated when endoscopic removal is not feasible, when malignancy is suspected, or when the lesion is very large and symptomatic. Our patient underwent atypical gastrectomy with tumor-free margins, which is consistent with reported management strategies in similar cases (Sathirawich *et al*., 2023). Surgery remains a safe and definitive option in giant adenomas with high-grade dysplasia.
- **Surveillance or exceptional cases**: Observation without resection is rarely appropriate but has been described in frail patients. Vogli *et al*., (2024) reported spontaneous regression of a gastric adenoma following hysterectomy, though such cases are exceptional and should not alter the standard approach.

Prognosis and Follow-Up

Following complete resection, prognosis is favorable. However, patients remain at risk of metachronous gastric neoplasia, particularly in the presence of intestinal metaplasia, atrophic gastritis, and *H. pylori* infection. Current guidelines recommend eradication of *H. pylori* and endoscopic surveillance at regular intervals (Okamoto *et al*., 2021). In our case, background mucosa showed chronic gastritis, intestinal metaplasia, and *H. pylori* infection, underlining the need for eradication therapy and long-term follow-up.

CONCLUSION

This case emphasizes that large gastric adenomas with high-grade dysplasia require careful management. When endoscopic resection is not feasible and biopsies are inconclusive, surgery remains essential both for accurate diagnosis and definitive treatment. A conservative atypical gastric resection allowed us to avoid an unnecessary radical gastrectomy, while ensuring complete excision and histological assessment. Such an approach underlines the importance of tailoring surgical strategy to balance oncological safety with functional preservation.

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