

Endoscopic management of multiple large antral hyperplastic polyps causing gastric outlet obstruction



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Gastric hyperplastic polyps are often asymptomatic and are found incidentally at upper endoscopy performed for unrelated reasons. Although they are considered a benign lesion, all symptomatic polyps should be removed for a more reliable histological diagnosis, resolution of symptoms and to prevent potential malignant transformation. In fact, there are no significant difference between pure gastric hyperplastic polyps and gastric hyperplastic polyps with neoplastic transformation in the number, location, or gross appearance of polyps. If symptomatic, patients usually complain of dyspepsia, heartburn, abdominal pain or upper gastrointestinal bleeding leading to anaemia. Complete or incomplete gastric outlet obstruction with intermittent symptoms, may rarely be caused by gastric hyperplastic polyps. We described the management of a rare case of intermittent gastric outlet obstruction caused by a large hyperplastic antral polyp prolapsing through the pylorus. Using hydroxypropylmethylcellulose, a new lifting agent, firstly from pyloric side, we obtained a reliable long-lasting submucosal cushion under the lesion which allowed a stable repositioning of the polyp in the gastric lumen without making additional infiltration during the endoscopic mucosal resection.

Innovative lifting agents could significantly reduce the procedure time, but additional studies should be performed on this area to confirm preliminary results. Endoscopic mucosal resection not only provides tissue to determine the exact histopathologic type of the polyp, but also achieves symptomatic treatment.

KEY WORDS: Hyperplastic polyps, Hydroxypropylmethylcellulose, Outlet obstruction.

Introduction

Gastric hyperplastic polyps, classified as benign stomach lesions, are characterized by hyperplastic, elongated, or dilated foveolar epithelium within a congested and inflamed lamina propria. Generally, they are asymptomatic and are found incidentally at upper endoscopy (UE) performed for unrelated reasons. They are usually

seen in adults, with a female predominance, over the sixth decade and are frequently associated with the presence of chronic active superficial gastritis. *Helicobacter pylori* (*H. pylori*) infection is present in 37% hyperplastic polyps, having between 0.6% and 6.6% rate of malignant transformation ¹. Unfortunately, there are no significant difference between pure gastric hyperplastic polyps and gastric hyperplastic polyps with neoplastic transformation in the number, location, or gross appearance of polyps. Discrepancies between endoscopic forceps biopsy (EBF) and endoscopic mucosal resection (EMR) specimens have been reported, with various rates ranging from 10–39%. In fact, EBF specimens may not be representative of the entire lesion. If symptomatic, patients usually complain of dyspepsia, heartburn, abdominal pain or upper gastrointestinal bleeding leading to anaemia ². Complete or incomplete gastric out-

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let obstruction (GOO) with intermittent symptoms, may rarely be caused by antral lesions as inflammatory fibroid³ or hyperplastic polyps⁴. In this report, we present the management of a patient who had a gastric hyperplastic polyp causing an intermittent GOO and its EMR using a new lifting agent to infiltrate the lesion base.

Case report

An 89 year-old man with heart's pacemaker presented at our Surgical Department with intermittent attacks of bloating, belching and nausea for about a year.

Laboratory tests demonstrated a mild anaemia (Haemoglobin 11.9 g/dL, a mean corpuscular volume of 84.9 fL.) and a hepatitis C virus infection. UE revealed two semi-pedunculated polyps in the gastric antrum, one of which (28 mm diameter) prolapsing through the pylorus into the duodenal bulb, thus intermittently obstructing the gastric outlet (Fig. 1). Multiple samples from polyps and each site of the antrum, angulus and corpus were taken in order to evaluate gastric mucosa and *H. pylori* infection. EMR was programmed at later time after pacemaker calibration. Gastric biopsies revealed gastritis with no evidence of atrophic changes or intestinal metaplasia. *H. pylori* linked and polyp samples showed a hyperplastic aspect without any evidence of malignancy. At the second UE, performed with standard forward-viewing videoendoscope (GIF-Q145, Olympus Optical Co. Ltd., Tokyo, Japan), the polyp was completely repositioned in the gastric lumen using an injection needle. Then the lesion was elevated by submucosal injection of hydroxypropylmethylcellulose (HPMC) mixed with normal saline (HPMC and normal saline, 1:2) and epinephrine, starting at the pyloric side all around the base

(Fig. 2) and removed by EMR (Fig. 3). The other antral polyp (15 mm diameter) was removed with the same method (Fig. 4). Finally, a haemostatic clip was placed on each area of resection to prevent late bleeding (Fig. 4). Deep sedation with propofol was used to perform the endoscopic procedures. There were no early or late complications related to procedure and the patient, after 24 hours fasting, was discharged on the third day after treatment. Microscopic examination showed a hyperplastic polyp with no malignant foci. The final diagnosis was a prolapsed pure hyperplastic polyp causing gastric outlet obstruction.

Discussion

Hyperplastic polyps are usually small (< 20 mm) and multiple polyps are found in 20% of the patients⁵. However, when large polyps are detected, higher is the risk of the complications such as obstruction, bleeding or pancreatitis⁵. Thus, although there are no set guidelines for the optimal management of all gastric polyps at the time of initial upper endoscopy, all symptomatic polyps should be removed for a more reliable histological diagnosis and resolution of symptoms. Also for asymptomatic polyps, especially if more than 5 mm in diameter, removal should be considered to prevent malignant evolution. Considering polypectomy risks such as bleeding (7,2%) and perforation (0,45%)⁶, some authors have recommended conservative medical management and endoscopic surveillance of smaller hyperplastic polyps. However, management based on polyp size or histology obtained from forceps biopsy sampling may be faulty⁷. In fact, the diagnosis solely based on forceps biopsy specimens carries the risk of missing the neo-

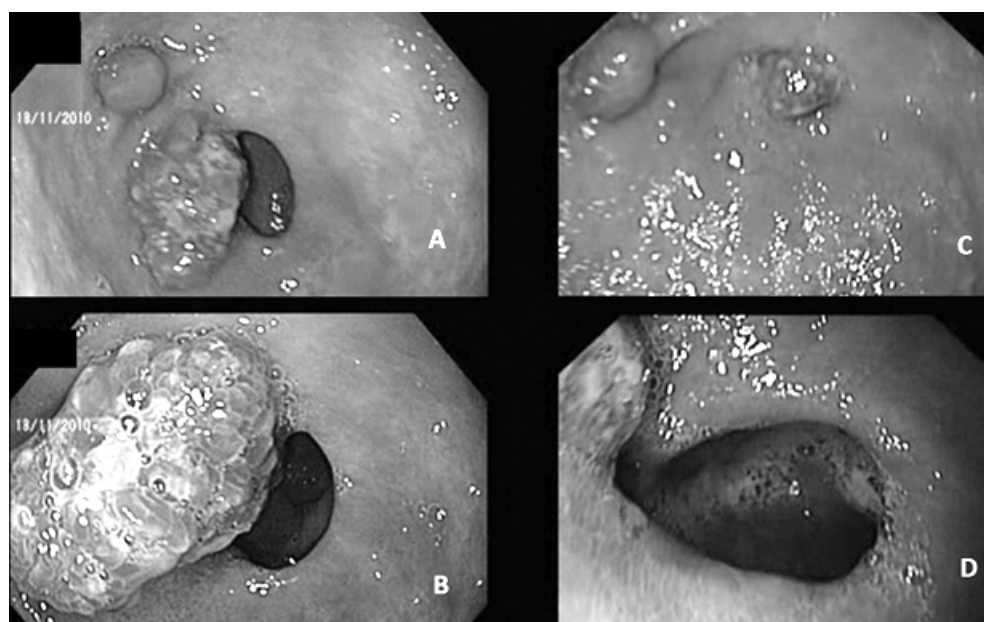


Fig. 1: Semi-pedunculated polyps in the prepyloric area. A,B and D) Different views. C) Larger one prolapsing through the pylorus.

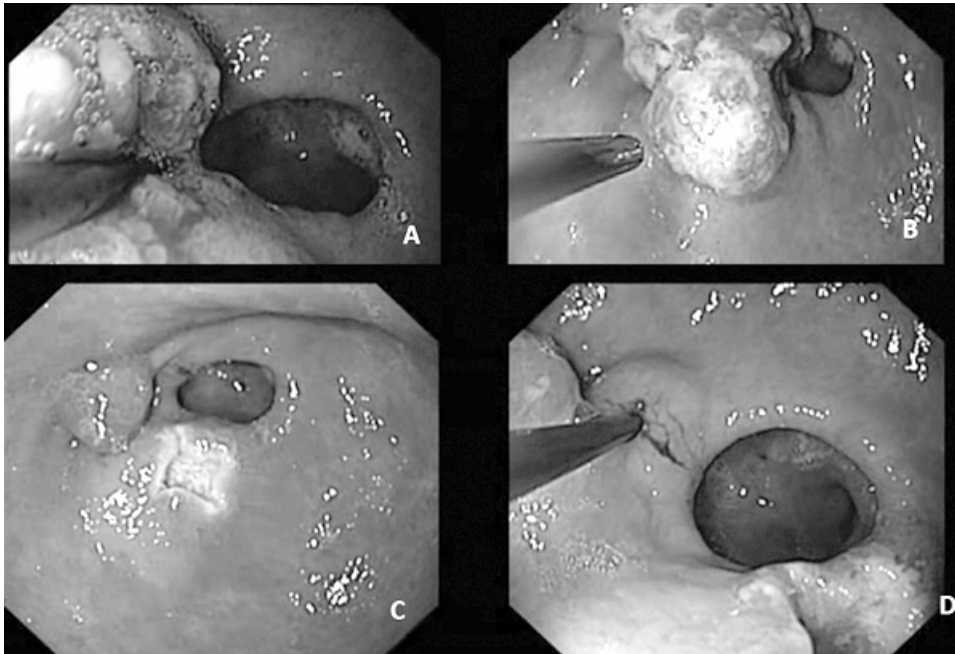


Fig. 2: A) Repositioning in the gastric lumen using an injection needle. B,D) Submucosal injection of HPMC. C) Resection area after EMR.

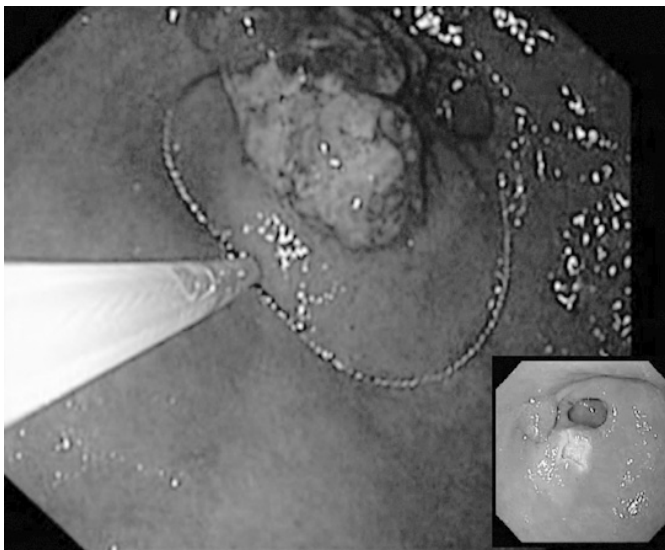


Fig. 3: Endoscopic mucosal resection.

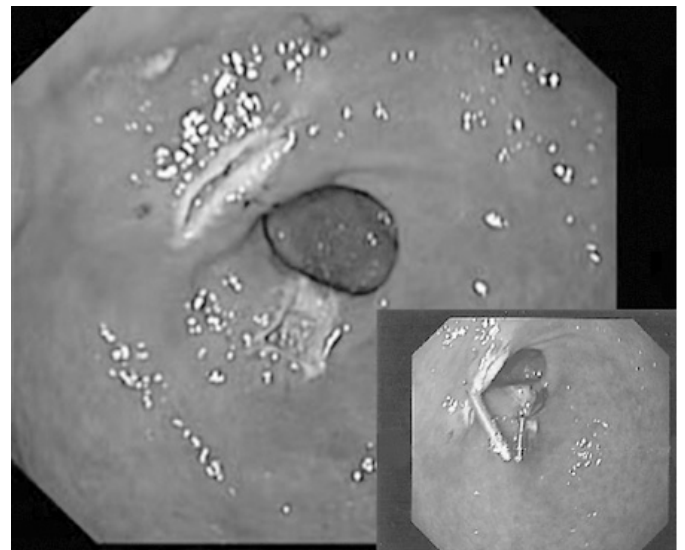


Fig. 4: Haemostatic clipping.

plastic foci within hyperplastic polyps due to sampling errors. In their study, Han et al. ⁸, demonstrated that neoplastic transformations were more frequently found in gastric hyperplastic polyps >1 cm than in polyps ≤1 cm. To date, in addition to saline solution, several viscous materials, such as hydroxypropyl methylcellulose (HPMC) ^{9,10} or sodium hyaluronate solution ¹¹ are described to create a submucosal fluid cushion that may be useful for removal of flat polyps, to protect the intestinal wall from thermal coagulation, to shorten the procedure time and possibly minimizing complications. In our case, we use the HPMC as lifting

agent based on their physical characteristics and low cost. Although still considered off-label, HPMC proved safe for injection in the submucosal layer in previous studies ¹⁰. Using HPMC first from pyloric side, we obtained a reliable long-lasting submucosal cushion under the lesion which allowed a stable repositioning of the polyp in the gastric lumen without making additional infiltration during the procedure. Thus, innovative lifting agents could significantly reduce the complication rate and procedure time, but additional studies should be performed on this area to confirm preliminary results.

Conclusion

Even considering the possible complications of the procedure, we believe proper the removal of those polyps exceeding 10 mm, even if the forceps biopsy sampling confirms the hyperplastic diagnosis. In fact, forceps biopsy is not fully representative of the entire lesion, and a simple biopsy may therefore lead to a faulty differentiation between neoplastic and non-neoplastic lesions. In addition, EMR not only provides tissue to determine the exact histopathologic type of the polyp, but also achieves symptomatic treatment.

Riassunto

I polipi iperplastici dello stomaco sono spesso asintomatici e incidentalmente individuati durante esami endoscopici eseguiti per differenti indicazioni. Sebbene queste formazioni siano considerate di natura benigna, dovrebbero essere comunque asportate quando sintomatiche per ottenere una più attendibile diagnosi istologica e risolvere la sintomatologia. Infatti, non ci sono significative differenze tra polipi iperplastici e polipi iperplastici con foci di trasformazione neoplastica per quanto riguarda numero, sede od aspetto macroscopico. Quando sintomatici, i pazienti riferiscono sovente dispepsia, epigastralgia, dolori addominali ed anemia. Una ostruzione gastrica completa od incompleta può essere causata da un polipo iperplastico dello stomaco. Nello studio viene descritta la gestione di un raro caso di ostruzione gastrica intermittente causata da un polipo iperplastico antrale. Utilizzando l'idrossipropilmetilcellulosa, un nuovo agente liftante, innanzitutto a livello del lato pilorico della lesione, abbiamo ottenuto una infiltrazione efficace e durevole di materiale in modo da stabilizzare il polipo all'interno del lume gastrico senza dover procedere ad ulteriori infiltrazioni durante la mucosectomia endoscopica. I nuovi agenti liftanti potrebbero significativamente ridurre il tempo complessivo delle procedure endoscopiche operative. Tuttavia, ulteriori studi devono essere effettuati a conferma dei risultati preliminari. Mediante mucosectomia endoscopica si ottiene, non solo, una esatta diagnosi istologica ma anche la risoluzione della sintomatologia.

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