

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/radcr](http://www.elsevier.com/locate/radcr)

## Case Report

# Case Report- A rare case of giant hyperplastic polyp ☆,☆☆

Satya Sundar Gajendra Mohapatra, MD\*, Beena D. Agarwal, MD, Manisha Gupta, PG

Department of Radiodiagnosis, IMS and SUM Hospital, Siksha O Anusandhan University, Bhubaneswar, Odisha, India

## ARTICLE INFO

## Article history:

Received 5 October 2021

Revised 25 October 2021

Accepted 27 October 2021

## Keywords:

Gastric epithelial tumor

Gastric hyperplasia

Giant hyperplastic polyp

Gastric polyp

Helicobacter pylori

Pedunculated polyp

Sessile polyp

## ABSTRACT

Giant gastric hyperplastic polyps are the most common benign epithelial tumors in the stomach. These are non-neoplastic epithelial proliferations of the stomach which are strongly associated with inflammatory conditions like chronic gastritis, helicobacter pylori gastritis, reactive or chemical gastritis. A 60 years old gentleman presented with history of two bouts of hematemesis preceded by multiple intermittent episodes of epigastric pain, nausea and few episodes of non-bilious vomiting without any history of previous gastrointestinal bleed, loss of appetite or significant weight loss. Work up with ultrasonography of abdomen, upper gastrointestinal endoscopy, contrast enhanced computed tomography abdomen, laboratory investigations followed by biopsy and histopathology was done which confirmed the diagnosis. Giant hyperplastic polyps are benign epithelial tumor of stomach often resulting from excessive regenerative hyperplasia in areas of chronic inflammation with no site predilection and nearly no malignant potential. Usually asymptomatic, these are incidentally detected on upper gastrointestinal endoscopy with characteristic appearance of such polyps on double contrast barium study followed by upper gastrointestinal endoscopy and biopsy is definitive for diagnosis.

© 2021 Published by Elsevier Inc. on behalf of University of Washington.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

## Introduction

Hyperplastic polyps of the stomach account for majority of benign gastric polyps. These are nonneoplastic lesions representing regenerative hyperplasia in the areas of chronic inflammation. Compared to adenomatous polyps which have

propensity to form invasive adenocarcinoma, hyperplastic polyps have virtually no malignant potential, however prevalence of dysplasia varies greatly between 1.9% to 19% and malignant transformation in approximately 0.6% to 2.1% cases. These are usually found incidentally during upper gastrointestinal endoscopic examinations (UGIE). Usually asymptomatic, these may cause symptoms such as occult gastroin-

☆ Sources of Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not form profit sectors.

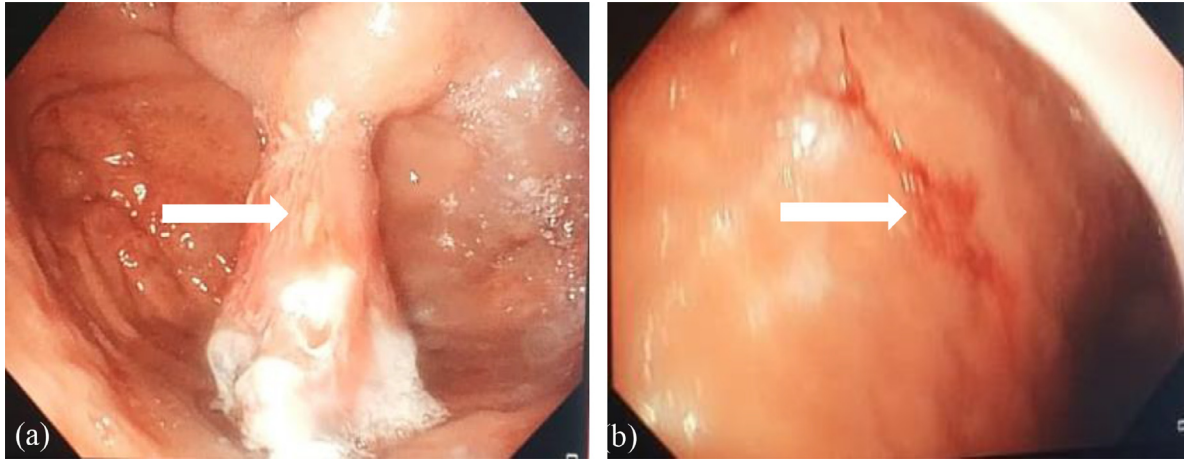
☆☆ Conflicts of Interest: There was no conflict of interest between the authors.

\* Corresponding author.

E-mail address: [satyamohapatra@soa.ac.in](mailto:satyamohapatra@soa.ac.in) (S.S.G. Mohapatra).

<https://doi.org/10.1016/j.radcr.2021.10.061>

1930-0433/© 2021 Published by Elsevier Inc. on behalf of University of Washington. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)



**Fig. 1 – Polypoid pedunculated irregular outline unhealthy looking lesion [white arrow in figure (A)] in gastric cardia with multiple areas of surface ulcerations [white arrow in figure (B)].**

testinal (GI) bleed and rarely can cause gastric outlet obstruction.

### Case Presentation

A 60 years old gentleman presented with history of two bouts of hematemesis preceded by multiple intermittent episodes of epigastric pain, nausea and few episodes of non-bilious vomiting. Patient had no other significant past medical or surgical history. No history of previous GI bleed, loss of appetite or significant weight loss. No associated co-morbidities. No history of allergy or family or social history.

Work up with ultrasonography, UGI, contrast enhanced computed tomography (CECT) abdomen, laboratory investigations followed by biopsy and histopathology was done.

### Ultrasonography

Mild to moderate fatty liver with poor visualization of hepatic interface due to bowel gas interposition. Visualized gastric antropyloric wall thickness within normal limit.

### UGIE

Polypoid pedunculated irregular outline unhealthy looking lesion in gastric cardia with multiple areas of surface ulcerations. Few small sessile polyps also noted in gastric body. Rest of gastric fundus, pylorus, antrum appear unremarkable (Fig. 1).

### CECT Abdomen

Irregular endophytic pedunculated intraluminal polypoid lesion with stalk like attachment in gastric cardia of approx-

imate size 4.7 × 3.2 cm. No extraserosal extension, perigastric omental fat stranding or enlarged perigastric lymph nodes seen. Rest of gastric wall appears normal in outline, shows normal mucosal enhancement (Fig. 2).

Incidental colonic interposition in perihepatic region (Chilaiditi syndrome) noted. No focal hepatic lesion, no peritoneal collection or enlarged abdominal/retroperitoneal lymphadenopathy seen.

UGIE biopsy reveals features of hyperplastic polyp without any evidence of atypia, dysplasia. Rapid urease test was performed and was detected positive thus confirming the presence of helicobacter pylori (*H.pylori*).

### Management

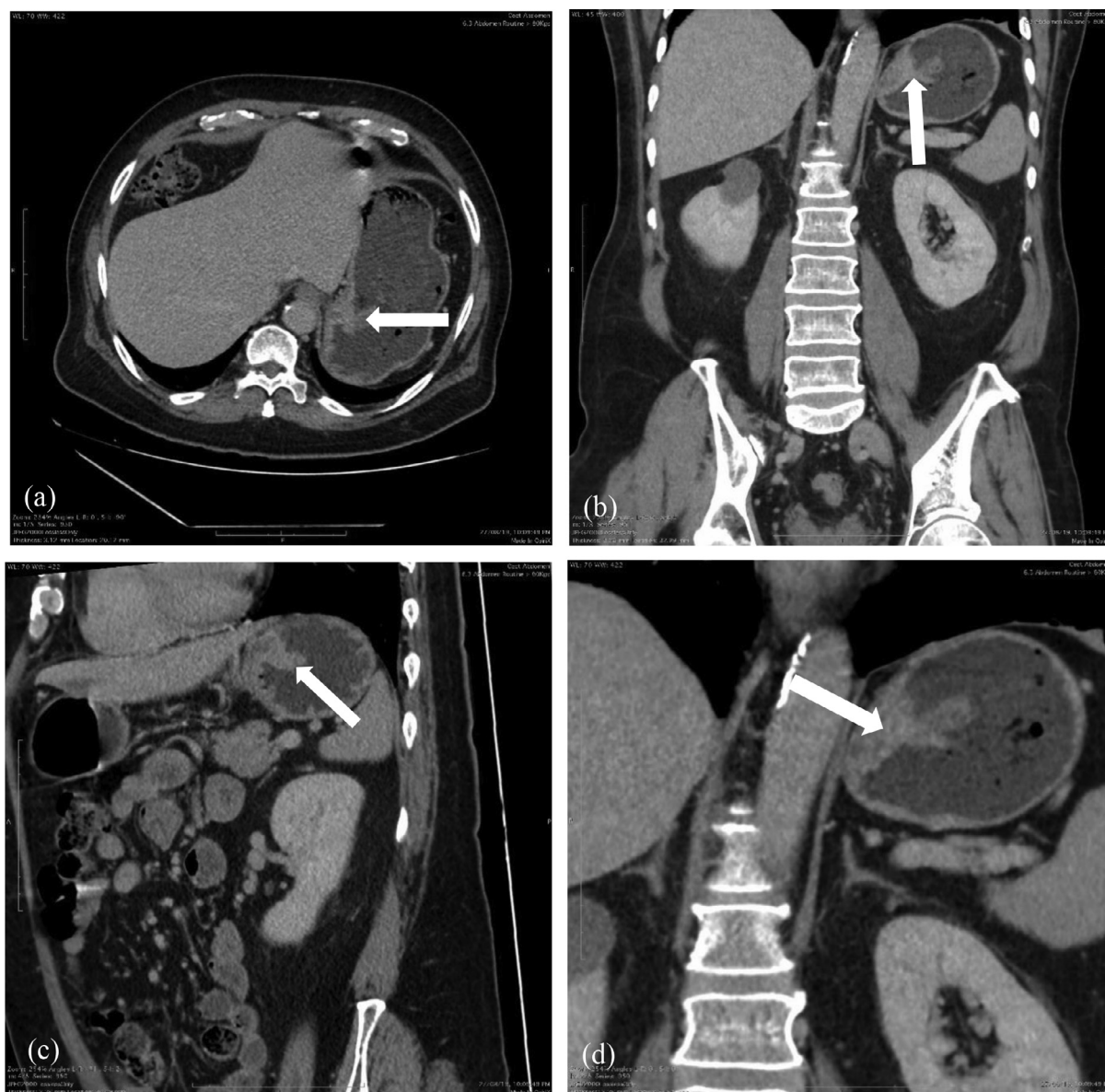
As UGIE biopsy had no features of dysplasia patient was treated with endoscopic mucosal resection with complete removal of pedunculated polyp. No periprocedural or post-procedural complication was noted.

### Histopathological Examination

Two specimens from gastric polyp and the sessile gastric polyp composed of dilated irregular and serrated cystic faveoli lined by columnar type of epithelium. Intervening stroma appears markedly edematous and infiltrated with moderate number of lymphocytes and plasma cells. Features suggestive of hyperplastic polyp with inflammation (Fig. 3).

### Discussion

Hyperplastic polyps are the most common benign epithelial tumors of stomach, detected incidentally in about 2%-6% of patients subjected to endoscopic examination [1]. These are



**Fig. 2 – Irregular endophytic pedunculated intraluminal polypoidal lesion (white arrows) with stalk like attachment in gastric cardia. No extraserosal extension, perigastric omental fat stranding or enlarged perigastric lymph nodes seen.**

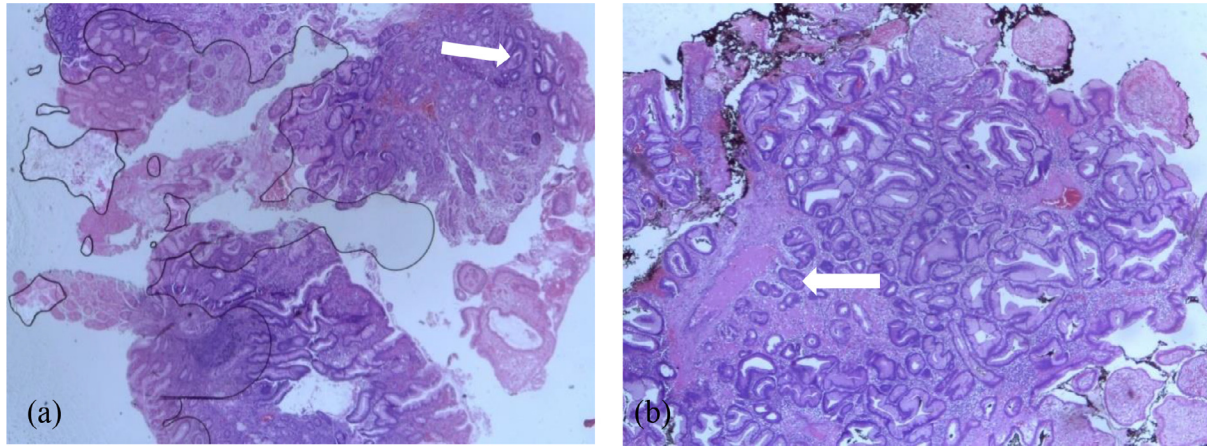
non-neoplastic epithelial proliferations of the stomach often resulting from excessive regenerative hyperplasia in areas of chronic inflammation [2]. These polyps are strongly associated with inflammatory conditions like chronic gastritis, H.pylori gastritis, reactive or chemical gastritis [2]. Regression of hyperplastic polyp size has been associated with eradication of H.pylori [3,4]. So, it is worthwhile to biopsy the background fat mucosa to identify any etiological factor.

It can be sessile or pedunculated, single or multiple. There is no site predilection; however, most are reported in gastric fundus, upper body. Usually, focal clusters of multiple small polypoidal lesions coalesce forming a conglomerate mass leading to giant hyperplastic polyp [5]. There is no definite size cut off to define giant polyp, however largest diameter of polyp measuring more than 3 cm is considered as giant polyp. These

tumors consist of hyperplastic foveolar cells that form elongated, dilated cystic glandular structures [2]. It is composed of non-dysplastic cells with virtually no malignant potential, however prevalence of dysplasia varies greatly between 1.9% to 19% and malignant transformation in approximately 0.6% to 2.1% cases [6–8]. It is usually found incidentally on upper GI endoscopy but may also present clinically as occult GI bleed leading to iron deficiency anemia or gastric outlet obstruction [9,10].

Other gastric epithelial polyps constitute fundic gland polyps and adenomatous polyps [8].

Characteristic multilobulated appearance with trapping of barium in the interstices between lobules, on double-contrast barium study raises strong suspicion of a giant gastric hyperplastic polyp which is further differentiated from polypoid



**Fig. 3 – Two specimens from gastric polyp and the sessile gastric polyp composed of dilated irregular and serrated cystic foveoli [white arrows in (A) and (B)] lined by columnar type of epithelium.**

carcinomas or other malignant lesions of the stomach on upper GI endoscopy/CECT and biopsy leading to a definitive diagnosis [11].

## Conclusion

Gastric hyperplastic polyps are the most common benign epithelial polyps of stomach with no site predilection and low malignant potential. They can be solitary or may be associated with multiple other small polyps elsewhere in the stomach. Usually, asymptomatic with incidental detection on UGIE, they can manifest with iron deficiency/pernicious anemia owing to occult UGI bleed and rarely can cause gastric outlet obstruction. Characteristic appearance of such polyps on double contrast barium study followed by UGIE and biopsy is definitive for diagnosis.

## Authors Contribution

SSGM - Conceptualization, Investigation, Supervision, interpretation of Data; Final approval of the work. MG - Original draft, Methodology; BDA - revised it critically & editing. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

## Ethical Approval & Patients Consent

The Study entitled “A rare case of giant hyperplastic polyp” was approved by the Ethical Committee of IMS & SUM Hospital to carry out this study and patient’s consent was duly acknowledged to the intuitional ethical committee. The Source of ethical approval is from Ethical Committee Board of IMS & SUM

Hospital, Siksha O Anusandhan University, Bhubaneswar, Odisha, India.

The approval letter is entitled with letter reference number DMR/IMS/SH/SOA/1211 dated on 7th of January 2020.

## Acknowledgments

The Authors are highly grateful to Chairman of Siksha O Anusandhan (deemed to be) University Prof. M.R Nayak for providing all the support during the work.

## REFERENCES

- [1] Yu X, Wang Z, Wang L, Meng X, Zhou C, Xin Y, et al. Gastric hyperplastic polyps inversely associated with current *Helicobacter pylori* infection. *Exp Ther Med* 2020;19:3143–9.
- [2] Cherukuri R, Levine MS, Furth EE, Rubesin SE, Laufer I. Giant hyperplastic polyps in the stomach: radiographic findings in seven patients. *AJR Am J Roentgenol*. 2000;175(5):1445–8.
- [3] Ohkusa T, Takashimizu I, Fujiki K, Suzuki S, Shimoi K, Horiuchi T, et al. Disappearance of hyperplastic polyps in the stomach after eradication of *Helicobacter pylori*. A randomized, clinical trial. *Ann Intern Med* 1998;129(9):712–15.
- [4] Nam SY, Lee SW, Jeon SW, Kwon YH, Lee HS. *Helicobacter pylori* Eradication Regressed Gastric Hyperplastic Polyp: A Randomized Controlled Trial. *Dig Dis Sci* 2020;65:3652–9.
- [5] Chen HW, Lu CH, Shun CT, Lin MT, Tsang YM. Gastric outlet obstruction due to giant hyperplastic gastric polyps. *J Formos Med Assoc* 2005;104(11):852–5.
- [6] Dirschmid K, Platz-Baudin C, Stolte M. Why is the hyperplastic polyp a marker for the precancerous condition of the gastric mucosa? *Virchows Arch* 2006;448(1):80–4.
- [7] Ginsberg GG, Al-Kawas FH, Fleischer DE, Reilly HF, Benjamin SB. Gastric polyps: relationship of size and histology to cancer risk. *Am J Gastroenterol* 1996;91(4):714–17.
- [8] Islam RS, Patel NC, Lam-Himlin D, Nguyen CC. Gastric polyps: a review of clinical, endoscopic, and histopathologic features and management decisions. *Gastroenterol Hepatol (N Y)* 2013;9(10):640–51.

- 
- [9] Dean PG, Davis PM, Nascimento AG, Farley DR. Hyperplastic gastric polyp causing progressive gastric outlet obstruction. *Mayo Clinic Proceedings* 1998;73(10):964–7.
- [10] Rajendra Kumar NL, Nanjaraj CP, Kavya BT, Pradeep Kumar CN, Madhushree BG, Pradeep HN, et al. An interesting case of atypical presentation of giant hyperplastic gastric polyps. *Eurorad* 2021. doi:10.35100/eurorad/case.17107.
- [11] Gordon R, Laufer I, Kressel HY. Gastric polyps on routine double-contrast examination of the stomach. *Radiology* 1980;134(1):27–9.