

## A Case Report of Multiple Gastric Tubulovillous Adenoma: A Rare Case of Upper Gastrointestinal Bleeding

Monika ballabh<sup>1</sup>, Rajendran<sup>2</sup>, Karthikeyan<sup>1\*</sup>, Guru prasad<sup>1</sup>

<sup>1</sup>Department of General Surgery, Sree Balaji Medical College & Hospital, Chennai, Tamil Nadu, India

<sup>2</sup>Department of Surgical Gastroenterology, Sree Balaji Medical College & Hospital, Chennai, Tamil Nadu, India

### Abstract

*A tubulovillous adenoma is a type of colorectal polyp that exhibits both tubular and villous features. These polyps are considered adenomatous polyps, which are precancerous lesions of the colon and rectum. The significance of tubulovillous adenomas lies in their potential to evolve into colorectal cancer over time, particularly if they are left undiagnosed or untreated. Gastric tubulovillous adenomas are rare benign tumors that can cause upper gastrointestinal (GI) bleeding. Multiple gastric tubulovillous adenomas are extremely rare and can pose a diagnostic and therapeutic challenge. This article provides an in-depth exploration of the tubulovillous adenoma, focusing on its pathophysiology, characteristics, risk factors, clinical presentation, diagnosis, management, and prognosis. Due to the relatively silent nature of these polyps, many are discovered incidentally during screening procedures, such as colonoscopy. The diagnosis of tubulovillous adenomas typically begins with screening for colorectal cancer, especially in individuals over 50 years old or those with a family history of colorectal cancer. The colonoscopy is the gold standard for detecting and diagnosing adenomatous polyps.*

**Keywords:** Adenomatous, Anemia, Bleeding, Cancer, Gastrointestinal Hemorrhage, Neoplasm, Polyp, Proliferative, Tubulo, Tubulovillous Adenoma, Villous, Villious.

### Introduction

A tubulovillous adenoma is a type of adenomatous polyp, which means it is an abnormal growth of the colon's epithelial tissue. Adenomatous polyps are further classified into three types: tubular, villous, and tubulovillous. The latter type features a mixture of both tubular structures and villous projections in the tissue of the polyp. This combination of structures affects the growth pattern, risk of malignancy, and management strategies for these polyps.

The relative proportions of the tubular and villous components play a crucial role in determining the potential for malignant transformation. Villous adenomas generally

have a higher risk of progressing to cancer than tubular ones, so when a tubulovillous adenoma has a greater proportion of the villous component, it carries a higher malignancy risk. This makes histopathological evaluation essential in determining the degree of risk.

Adenomas, including tubulovillous adenomas, develop due to dysregulated cell growth in the colon. In normal tissue, epithelial cells are regulated through a complex network of signals that control cell division, differentiation, and apoptosis (programmed cell death). However, in adenomas, genetic mutations occur in these signaling pathways, leading to uncontrolled

cell proliferation and the formation of abnormal growths.

In tubulovillous adenomas, the combination of tubular and villous components suggests that the mutation affects the cellular architecture, causing abnormal glandular formation (tubular) and disorganized growth (villous). This genetic dysregulation promotes an environment where neoplastic cells (abnormally proliferating cells) have the potential to develop into carcinoma (cancer).

Several factors contribute to the development of tubulovillous adenomas, many of which are modifiable or related to lifestyle, while others are intrinsic or genetic. These factors include: The risk of developing adenomas increases with age, especially after 50 years. This is likely due to the cumulative effects of genetic mutations and the gradual accumulation of cellular damage over time. A family history of colorectal cancer or adenomatous polyps significantly increases the risk. This suggests a genetic predisposition, with conditions like familial adenomatous polyposis (FAP) or Lynch syndrome being associated with an increased risk of developing polyps and colon cancer. A diet high in red meat, saturated fats, and low in fiber has been shown to increase the risk of developing colorectal adenomas. Certain nutrients, such as calcium, vitamin D, and folate, may have protective effects against polyp formation. Smoking, excessive alcohol consumption, and a sedentary lifestyle contribute to the development of colon polyps. Obesity is also a significant risk factor. Chronic Inflammatory Diseases: Conditions like ulcerative colitis and Crohn's disease, which cause chronic inflammation of the colon, are linked to a higher risk of developing adenomas and eventually colorectal cancer. Previous History of Adenomas: Individuals who have had one or more adenomas in the past are at an increased risk of developing new polyps, including tubulovillous adenomas.

Most tubulovillous adenomas are asymptomatic, especially when they are small. However, as they grow or if they become malignant, they may present with a range of symptoms. These include:

The presence of blood in the stool or on the toilet paper may be a sign of a polyp, including a tubulovillous adenoma. However, rectal bleeding can also be associated with hemorrhoids or other gastrointestinal condition. This may include diarrhea, constipation, or alternating between the two. These changes may occur if the adenoma is large or located near the rectum. Abdominal Pain or Discomfort: Larger adenomas may cause pain or a feeling of fullness, especially if they are obstructing the colon. Iron-Deficiency Anemia: Chronic blood loss from larger polyps can lead to anemia, with symptoms like fatigue, pallor, and weakness. Due to the relatively silent nature of these polyps, many are discovered incidentally during screening procedures, such as colonoscopy. The diagnosis of tubulovillous adenomas typically begins with screening for colorectal cancer, especially in individuals over 50 years old or those with a family history of colorectal cancer. The colonoscopy is the gold standard for detecting and diagnosing adenomatous polyps.

## Case Report

A 53Y/F presented with complaints of painless lump in right upper abdomen for the past year. History of weight loss, anorexia and generalised weakness were present. No History of blood in stools. Per abdomen examination revealed an ill-defined 5x4cm hard, non-tender lump in the upper right quadrant, which moves with respiration and with minimal intrinsic transverse mobility. Finger insinuation possible between costal margin and mass. no other mass palpable. Percussion - liver span 12cm. Dullness is not continuous with the dullness over the mass. No free fluid.

**PR Findings:** Normal, no palpable mass. no pelvic deposits.

**PROCTOSCOPY:** No visible mass, no active bleeding from anal mucosa.

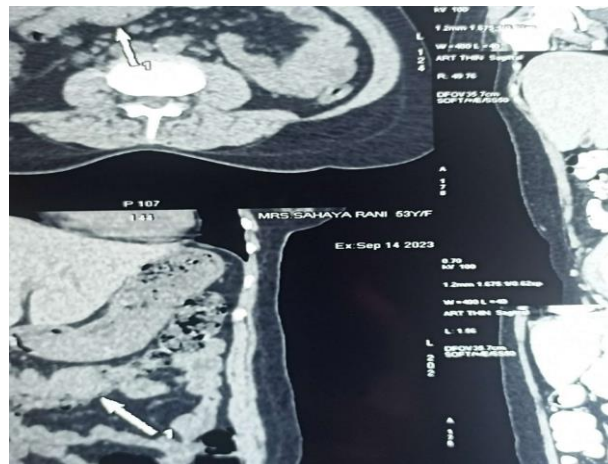
**CECT Abdomen:** Heterogeneously enhancing long segment of ulceroproliferative ill-defined mass lesion in proximal ascending colon and right 1/3 of transverse colon at hepatic flexure-possibility ca colon. liver normal.

**Colonoscopy:** A friable ulceroproliferative growth of size around 4cm seen, 5 cm distal to the hepatic flexure in transverse colon and

another polyps, one in the transverse colon and another one in the descending colon. biopsy taken.

**Colonoscopic Biopsy:** Biopsy from descending colon polyp- shows-tubular adenoma.

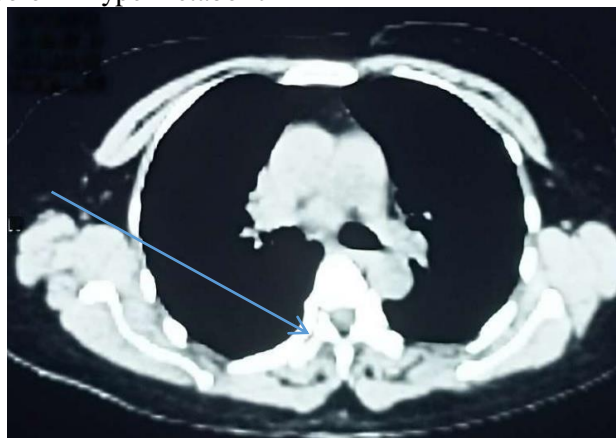
**CECT ABDOMEN:** Shows Heterogeneously enhancing long segment ulceroproliferative ill-defined mass lesion seen involving proximal ascending colon at hepatic flexure and right one third of transverse colon causing significant luminal narrowing-carcinoma colon [Figure-1].



**Figure 1.** CECT Image Heterogeneously Enhancing Long Segment Ulceroproliferative ill-defined Mass Lesion Seen Involving Proximal Ascending Colon at Hepatic Flexure and Right One Third of Transverse Colon

**PET CT:** shows near circumferential mural thickening (maximum thickening measures approx 17mm extending for a length of 6cm) in proximal Transverse colon Hypermetabolic

near circumferential mural thickening in proximal transverse colon suggestive of primary malignancy. [Figure-2].



**Figure 2.** Shows Thickening in Proximal Transverse Colon

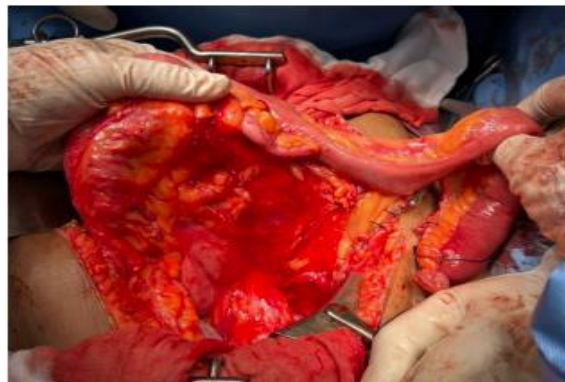
**Histopathological Report:** Shows Large polyp-Tubulovillous adenoma with prominent microvesicular changes and focal low grade dysplastic changes.

Small polyps-Tubular adenoma. (one in transverse colon distal to largest polyp and another in descending colon. [Figure-3] with five reactive lymph node.

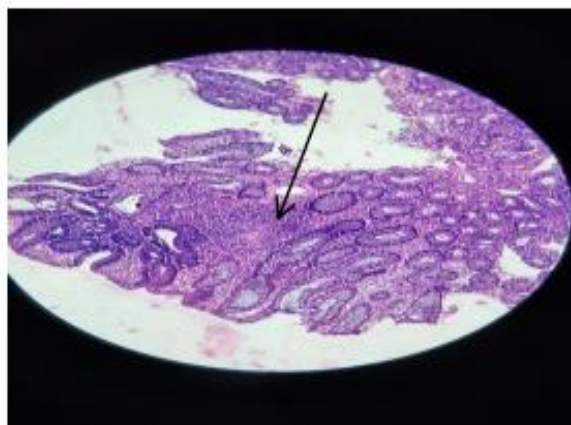
PROCEDURE-Subtotal colectomy with ileo Distal Sigmoidal stapler [Figure-4, 6].



**Figure 3.** Showing a Friable Ulceroproliferative Growth of Size Around 4cm Seen, 5 cm Distal to the Hepatic Flexure in Transverse Colon and Another Polyps, One in the Transverse Colon and Another One in the Descending Colon



**Figure 4.** Showing Intra Operative Picture



**Figure 5.** HPE Image- Shows Polypoidal Mucosa Lined by Dysplastic Epithelium with Hyper Chromatic Nuclei Exhibiting Pseudostratification and Focal Loss of Mucin



s

**Figure 6.** Specimen

## Discussion

Gastric tubulovillous adenomas are rare benign tumors that can cause upper gastrointestinal (GI) bleeding. Multiple gastric tubulovillous adenomas are extremely rare and can pose a diagnostic and therapeutic challenge. In this case report, we present a rare case of multiple gastric tubulovillous adenomas causing upper GI bleeding. The diagnosis of gastric tubulovillous adenomas is often challenging and requires a combination of endoscopic and histopathological evaluation. Endoscopy is essential for visualizing the tumor and obtaining biopsy specimens for histopathological examination [1]. Histopathological examination is necessary to confirm the diagnosis and rule out other conditions, such as gastric cancer [2]. The treatment of gastric tubulovillous adenomas depends on the size and location of the tumor, as well as the presence of symptoms. Endoscopic resection is a minimally invasive procedure that can be used to remove small tumors [3]. Surgical excision may be necessary for larger tumors or those that are difficult to remove endoscopically [4]. Surveillance is also an important aspect of management, as gastric tubulovillous adenomas can undergo malignant transformation [5]. In this case, the patient presented with upper GI bleeding, which is a common symptom of gastric tubulovillous adenomas. The diagnosis was confirmed by endoscopic and histopathological evaluation. The patient underwent endoscopic resection of

the tumors and was discharged without complications. The pathogenesis of gastric tubulovillous adenomas is not fully understood. However, several factors have been implicated in their development, including genetic mutations, environmental factors, and inflammation [6]. The role of *Helicobacter pylori* infection in the development of gastric tubulovillous adenomas is also a topic of ongoing research [7].

## Conclusion

Bleeding from a polyp can happen even without obvious rectal bleeding and patient may present with iron deficiency anaemia. Hence patients above 50 yrs old presenting with anaemia should be thoroughly evaluated for malignancy. Also colonic or rectal polyps with histopathology of tubulovillous adenoma and size more than 2cm should be treated with resection as the chance for malignancy is high in these cases. Subtotal colectomy can be considered in cases with multiple adenomatous colonic polyps, as it eliminates the need of regular frequent colonoscopic follow up & also the chance of progression of the polyp to malignancy in the future. There is no much difference in the morbidity associated with segmental resection and subtotal colectomy in a patient with good performance status. Multiple gastric tubulovillous adenomas are a rare cause of upper gastrointestinal bleeding. Endoscopic surveillance and resection are essential in the management of these lesions to prevent malignant transformation and potential complications.

## Acknowledgement

The completion of this undertaking could not have been possible without the participation and assistance of so many people whose names may not be all enumerated. Their contributions are sincerely appreciated and gratefully acknowledged.

## References

- [1]. Park, S. W., Lee, S. H., Lee, J. H., et al., 2018, Multiple gastric tubulovillous adenomas: A case report and review of the literature, *Clin Endosc*, vol. 51, no. 3, pp. 261-265.
- [2]. Lauwers, G. Y., Srivastava, A., Mino-Kenudson, M., et al., 2010, Gastric adenocarcinoma and its precursor lesions, *Pathol Case Rev*, vol. 15, no. 3, pp. 123-133.
- [3]. Pimentel-Nunes, P., Dinis-Ribeiro, M., 2016, Endoscopic surveillance of gastric adenomas, *Gastrointest Endosc Clin N Am*, vol. 26, no. 2, pp. 257-265.

## Conflict of Interest

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report. We certify that the submission is original work and is not under review at any other publication.

- [4]. Japanese Gastric Cancer Association, 2017, Japanese gastric cancer treatment guidelines 2014 (ver. 1), *Gastric Cancer*, vol. 20, no. 1, pp. 1-19.
- [5]. Lee, J. H., Bae, J. S., Ryu, D. Y., et al., 2015, Clinicopathological features of gastric adenomas, *J Gastric Cancer*, vol. 15, no. 2, pp. 83-90.
- [6]. Park, D. Y., Lauwers, G. Y., 2011, Gastric adenoma: A review, *J Gastroenterol*, vol. 46, no. 8, pp. 945-953.
- [7]. Abraham, S. C., Singh, V. K., Yardley, J. H., Wu, T. T., 2001, Gastric adenoma: Intestinal-type adenocarcinoma in an adenomatous polyp in the setting of chronic gastric ulcer, *Am J Surg Pathol*, vol. 25, no. 1, pp. 115-121.