

# Histomorphological Analysis of Gastric Polyps: A Retrospective Study

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Conflict of interest: Nil

## Abstract

**Introduction:** A polyp is a tumorous mass that projects above the surrounding mucosa and protrudes into the lumen of the gut. Polyps are common in 6<sup>th</sup> and 7<sup>th</sup> decade, though they may occur in any age. Majority of polyps are sporadic in nature and familial polyposis syndromes are rare.

**Aim of the Study:** To study the incidence and morphology of different types of gastric polyp and to analyze the incidence and morphological features of malignancies associated with polyps

**Methods:** It is a retrospective study done at our institute between January 2014 and December 2015. This study includes all lesions identified as polyps and polypoidal lesion in stomach. The specimen includes both endoscopic biopsies and resected specimens. Nodules and ulcerated mass lesions were excluded.

**Results:** Prevalence of gastric polyp among the gastrointestinal (GI) specimens was 4.4%. common age group is among 5<sup>th</sup> and 6<sup>th</sup> decades. Men have higher incidence with 1.4:1 ratio. Common site of occurrence was antrum and commonest morphological type was hyperplastic polyps. Hyperplastic polyp more than 1.5 cm and adenomatous polyps are associated with dysplasia. Malignant polyps occurrence rate was 3% in our study.

**Conclusion:** Hyperplastic polyps are more common in our region and larger size polyps warrant excision and should be subjected to histopathological examination to rule out dysplasia or malignancy.

**Keywords:** Stomach, Polyps, Antrum, Polyposis, Gastric, Adenomatous polyps.

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## Introduction

Polyps are identified in up to 6% of upper gastrointestinal endoscopies. [1] polyps can occur due to epithelial or stromal hyperplasia, inflammation, ectopic tissues or neoplasia. Hyperplastic polyps are more common in regions with endemic H-pylori infection. In western countries, fundic gland polyps are more common due to lesser prevalence of H-pylori infection and due to more use of proton

pump inhibitor drugs. [2] Polyps are more common in 6<sup>th</sup> or 7<sup>th</sup> decade, though they may occur at any age.

Majority of polyps are sporadic in nature; Familial polyposis syndromes are rare. Polyps of gastrointestinal tract epithelial and non-epithelial(mesenchymal) and further epithelial into neoplastic and non-neoplastic polyps.

Non neoplastic polyps include hyperplastic polyp, inflammatory polyp, hamartomatous and lymphoid polyps. [3] neoplastic polyps can be adenoma, carcinoma, carcinoid polyps. This study aims to analyze the histomorphology of different type polyps in stomach.

### Materials and Methods

This is a retrospective study done at our institute between January 2014 and December 2015. This study includes all the lesions in stomach identified as polyps and polypoidal lesions. The specimen includes both the endoscopic small biopsies (polypectomies) and resected specimens. Nodules and ulcerated large mass were excluded.

A total of 22833 pathological specimens were received in this period. Among them 6726 were gastrointestinal specimens. Out of which, 80 specimens from stomach were included for analysis.

All the specimens were collected along with clinical details including age and sex of the patient, clinical presentation and site, size, nature of polyp, type of biopsy of the specimen. These specimens were fixed using 10% neutral buffered formalin and then processed for histopathological studies using Hematoxylin and Eosin stains.

### Results

Total number of GI specimens received in that period was 6796. Among them 296 were total GI polyp specimens. Totally 80(n) gastric polyps were taken for analysis. [FIGURE.1 ] Percentage of gastric polyps of all GI polyps were 27%. Patient and polyp characteristics are given in the Table 1.

Fifth decade and sixth decade age group were commonly involved. Male has more preponderance with a male to female ratio of 1.4:1 except in fundus region polyps where it was 1:1.69.

Commonest clinical presentation were abdominal pain, nausea, dyspepsia, and anemia. Commonest site of involvement in stomach was antrum(n=31). Hyperplastic polyps are the most common type of polyp (n=61) in stomach in our study. [FIGURE 2]. The other non-neoplastic polyps were fundic gland polyp(n=1), inflammatory (n=4), chronic gastritis (n=4), multiple polyposis (n=5) that includes one Familial adenomatous type. Neoplastic polyps include adenomatous polyp (n=1), leiomyoma (n=1), carcinoid (n=1), [FIGURE 3] adenocarcinoma (n=1) and gastrointestinal stromal tumor (n=1).

Gastric polyps are mostly sessile in nature(n=76) and pedunculated are very rare (n=4). Most of them are small biopsy specimen (n=64), polypectomy (n=8) and resected specimen (n=8).

Size of the polyp are mostly <1 cm (n=51) and polyp size between 1-2 cm(n=6) are mostly hyperplastic type and one polyp was associated with dysplasia. Polyp size more than 2 cm (n=2) are adenocarcinoma and an adenoma.

Dysplasia of the polyp are noted in 2 cases, both are larger polyps (>1-2 cm) and are associated with low grade dysplasia. One was in antrum, hyperplastic type and another is adenomatous polyp at pylorus region. Two polyps were found to have malignancy, one was adenocarcinoma and another one was gastrointestinal stromal tumor (GIST).

**Table 1: Patient and polyps characteristics**

<b>Patient and polyps characteristics (n=80)</b>			
	<b>n</b>		<b>n</b>
<b>AGE</b>		<b>NATURE OF POLYP</b>	
5th decade		sessile	71
6th decade		pedunculated	4
<b>SEX</b>		Polyposis	5
Male	47	<b>HISTOMORPHOLOGY</b>	
Female	33	Hyperplastic polyp	61
<b>PRESENTING COMPLAINTS</b>		Chronic gastritis	4
Abdominal pain		Inflammatory polyp	4
Dyspepsia		Fundic gland polyp	1
Anaemic symptoms		Neoplastic polyp	5
<b>NATURE OF BIOPSY</b>		Adenoma	1
Small biopsy	64	Leiomyoma	1
Polypectomy	8	Carcinoid	1
Excision	8	Malignant	
<b>SITE OF POLYP</b>		Adenocarcinoma	1
Fundus/cardia	8	GIST	1
Body	30	Multiple polyposis	5
Antrum	31	FAP	1
Pylorus	11	Other polyposis	4
<b>SIZE OF POLYP</b>		<b>DYSPLASIA</b>	
<1 CM	51	Present	2
1-2 CM	6	Absent	78
>2-3 CM	2	Low grade dysplasia	2
>4-5 CM	1	High grade dysplasia	0

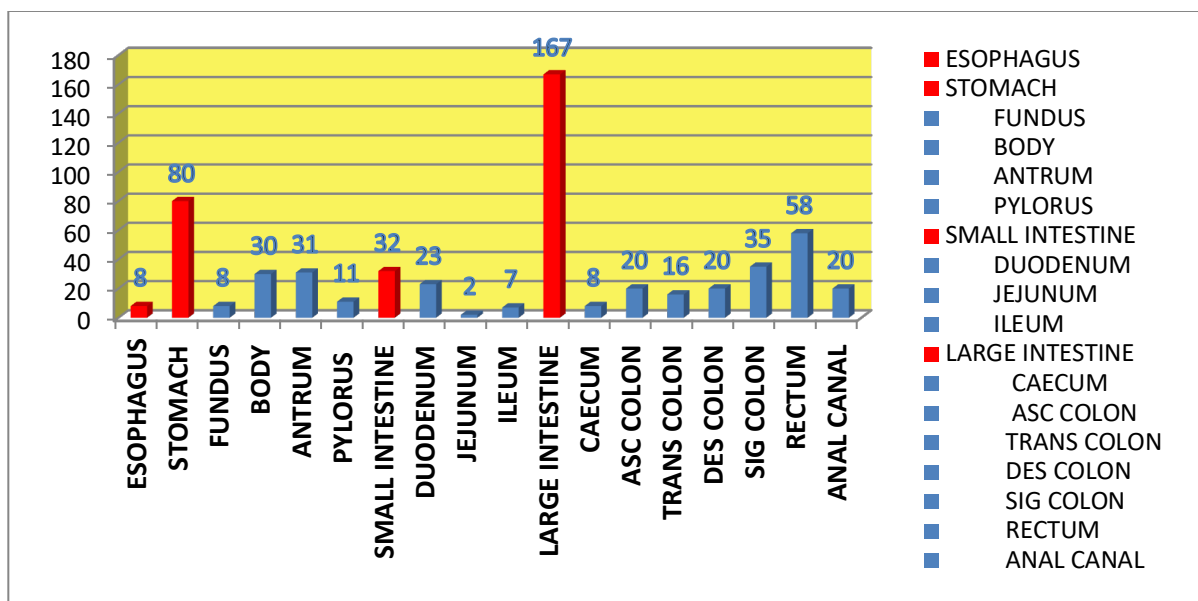


Figure 1

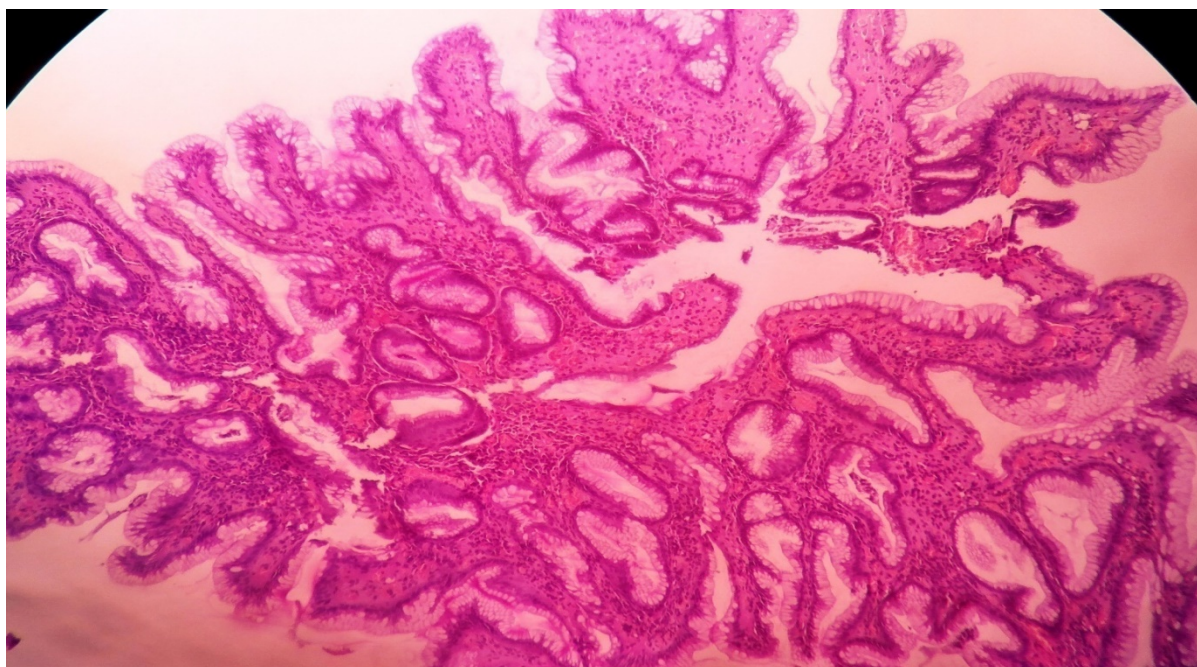
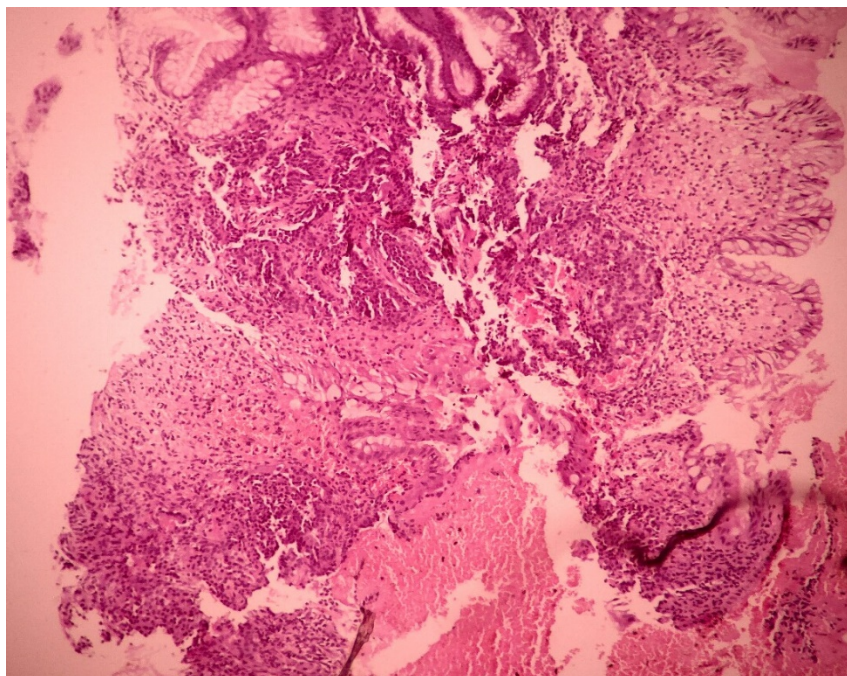


Figure 2: Hyperplastic polyp of stomach (H&amp;E)





**Figure 3: Carcinoid tumour (H&E)**

## Discussion

Gastric polyps are increasing polyp in increasing in incidence after increase in use of proton pump inhibitor. Previous study at our institution on GI polyps done by Shanthi velusamy *et al* (3) between 2008 to 2012 showed 120 gastric polyps but in our study, we received 80 gastric polyps in 2 years. The incidence of gastric polyps was reported as 0.4% of autopsy cases and 5% of endoscopic studies. (4,5,6) The commonest age group involved in our study is 1 decade earlier than the reported. Males have more preponderance to get gastric polyps correlates with other studies.

Similar to the study done by Shanthi *et al* (3), the commonest site of involvement was antrum and most common histomorphological type was hyperplastic polyp and mostly were sub centimetric in size. Polyps sized more than 1 cm had a greater number of hyperplastic polyp and one among them was associated with dysplasia. The literature also suggests that that the polyp sized greater than 0.5 cm should be excised

and subjected to histopathological examination since increase in size correlates with dysplasia. (7) The prevalence of fundic gland polyp is usually high in most of the countries, but we have very a smaller number of cases, that is correlates with the previous study done at our institute by Shanthi velusamy *et al*. (3) This study is not a true representation of prevalence of polyp in community. As this was done at hospital based population, we need population based survey to estimate the real performance in the community.

## Conclusion

Gastric polyps are increasing in the incidence and the larger polyps should be excised and examined to rule out dysplasia or malignancy.

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