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Research Article

STUDY OF PREVALENCE AND ANALYSIS OF GASTRO INTESTINAL POLYPS IN A TERTIARY CARE CENTRE

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A B S T R A C T

Aim: To study the incidence and prevalence of gastrointestinal polyps with a clinical, endoscopic and histopathologic correlation.
Material and methods: Patients with family history of GI polyps and those found to have GI polyps on routine endoscopy were taken up for the study. All 50 selected cases underwent either colonoscopy or upper GI Endoscopy or both as applicable. Biopsy of the polyps and histopathological assessment of the biopsied polyps were performed.
Results: Out of the 50 cases studied, 33 were male and 17 female patients. Mean age was 55.6 years for male cases, 49.1 years for female cases. Polyps distribution was found to be 4 (8%) esophageal, 14 (28%) gastric, 4 (8%) duodenal and 28 (56%) colonic in location. Types of polyps were 25 sessile polyps (50%), 8 pedunculated polyps (10%), 16 polypoidal mass (32%) and 1 pseudo polyp (2%). Histopathology variations were inflammatory polyps in 11 (22%), hyperplastic polyps in 18 (36%), tubular adenoma in 8 (16%), villous adenoma in 2 (4%), adeno carcinoma in 8 (16%), lympho proliferative disorder in 1 (2%), fibro epithelial polyp in 2 (2%) and Peutz Jeghers polyps in 1 (2%). In two cases which appeared non malignant in histopathological examination, other investigations detected malignancy and underwent curative resection.
Conclusion: Detection of polyps by proper screening during GI endoscopies is important, so that these cases are identified and included in regular surveillance programmes. Patients with polyps should be offered proper treatment options like polypectomy and thorough examination.

INTRODUCTION

The term "polyp" derives the Greek for "multiple feet" or "little nipple". In current clinical practice a polyp is defined as any nodule or mass that projects above the level of the surrounding mucosa, as in the gut, to form a macroscopically visible structure. Traction on the mass may create a stalked, or pedunculated, polyp. Alternatively, the polyp may be sessile, without a definable stalk.

The polyps that are formed as a result of abnormal mucosal maturation, inflammation, or architecture, are non-neoplastic and do not have malignant potential, but those that arise as the result of epithelial proliferation and dysplasia are termed adenomatous polyps or adenomas. They are true neoplastic lesions and are precursors of carcinoma. Some polypoid lesions may be caused by submucosal or mural tumors. However, as with the stomach, the term polyp, unless otherwise specified, refers to lesions arising from the epithelium of the mucosa.

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While oesophageal cancer remains one of the leading causes of cancer mortality, esophageal polyps are relatively unusual, compared with polyps in other parts of the gastrointestinal tract. From both a clinical and a pathological point of view, polyps of the oesophagus may be divided into two main groups, intramural and intraluminal growths.

The vast majority of the intramural tumours are stromal tumours. They are made up of variable proportions of smooth muscle and fibrous tissue. Such intraluminal polypoidal growths usually originate in the submucosa and are covered by normal squamous epithelium. Endoscopic biopsies usually fail to reveal the nature of both intramural and intraluminal tumours except for those lesions that have originated from the epithelium. Oesophageal cancer rarely presents itself as a polypoid lesion.

With the increasing use of endoscopy, visually discernible abnormalities, such as polyps in the gastrointestinal tract, are encountered more often. Gastric polyps most frequently originate in the mucosa but encompass a broad spectrum of pathologic conditions that may even be submucosal or extrinsic. Found in 6% of upper endoscopies, gastric polyps

are a heterogeneous group of epithelial and subepithelial lesions that can vary in histology, neoplastic potential, and management .[1,2] Even though most are asymptomatic (>90%), larger polyps may present with bleeding, anemia, obstruction, or abdominal pain.

Most have no risk of cancer, but there are certain subsets of polyps with malignant potential, necessitating further endoscopic treatment and/or periodic surveillance. These polyps are typically identified histologically because they have no reliable distinguishing endoscopic features. As many gastric polyps have similar endoscopic appearances, their classification depends on the histologic compartments from which they arise (ie, epithelial, hamartomatous, or mesenchymal).

Duodenal polyps are rare lesions. With the widespread use of upper GI scopy, the number of reports of patients with duodenal lesions has recently raised.[3,4,5,6,] However, because of the rarity and unclear clinical significance of nonampullary duodenal polyps, clear management guidelines are not available.[7] More recently, the American Society for Gastrointestinal Endoscopy Standards of Practice Committee has issued their guidelines for patients with duodenal adenomas and suggested that endoscopy is valid for evaluation and treatment.[8]

Colorectal adenomas are the precursors of sporadic and hereditary colorectal cancer.[9] Surveillance programmes including colonoscopy and polypectomy decreases both the incidence and mortality among patients with hereditary colorectal cancer.[10] In the general population the most commonly occurring lesion in the colon is the hyperplastic (metaplastic) polyp[11,12] and the prevalence in autopsy studies in individuals younger than 50 years of age has been found as 7–40%.[11,13] In individuals over the age of 50 years, the prevalence of hyperplastic polyps has been documented to be 20–40%.[11,13] Hyperplastic polyps could be a marker for future adenomas in the general population[14,15] as well as for synchronous or metachronous colorectal neoplasia.[16] There is much discussion about the importance of these polyps in colorectal cancer, and it is still not clear if hyperplastic polyps are precursors to adenomas .

MATERIALS AND METHODS

The prospective study was conducted in a Tertiary care hospital in South India during the study period of January 2014 to December 2016.

Patients who were suspicious of gastrointestinal polyps or with family history of polyps, attending the Gastro OPD were taken up for the study. The study was approved by institute ethical committee review board. Informed and written consent were obtained from the study population

Inclusion criteria

Patients with family history of GI polyps and those found to have GI polyps on routine endoscopy were included

Exclusion Criteria

Patients not willing for consent, serious cardiac and respiratory disorder and pregnant women were excluded from this study.

All the patients who met the above criteria were included in the study and got admitted in our department. A detailed clinical history pertaining to GI symptoms were obtained. All cases were analysed with hemogram,upper and lower GI endoscopy as applicable, biopsy of the lesion and biopsy sent for histopathologic examination.

Statistical Analysis

Data was analysed using Graph Pad software. Categorical measurements were mentioned as numbers. Mean +/- Standard deviation was computed for continuous variables like age. Number of lesions was presented as percentages. Sensitivity, specificity were calculated.

RESULTS

A total of 50 patients (33 men and 17 women) were subjected to gastrointestinal evaluation by endoscopy, biopsy of lesion and histopathological examination of biopsy. Mean age of male patients was 55.6 +/- 6.7 years, Mean age of female patients was 49.1 +/- 8.1 yearsSite of involvement of polyps were 4 (8%) in esophagus, 14 (28%) in stomach, 4 (8%) in duodenum, 28 (56%) in colon.

Site of involvement of GI tract

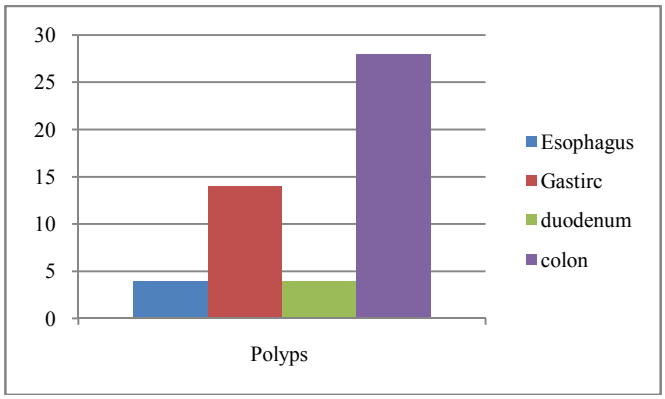

Figure 1 Site of involvement of GIT in study population

Symptoms associated with esophageal polyps were dysphagia in a case, odynophagia in a case and hold up sensation in two cases.

In gastric polyps cases, 7 patients (50%) presented with non specific symptoms like pain abdomen. 4 patients presented with features of dyspepsia like belching, abdominal bloating. Two patients presented with upper GI bleed, One with hematemesis, other with melena.

Of the four patients who presented with duodenal polyps one patient presented with vomiting, one patient presented with chronic diarrhea, two patients presented with vague abdominal pain.

In colonic polyps cases 26 patients presented with bleeding per rectum (95%), 2 Patients presented with blood and mucous diarrhea and altered bowel habits.

Types of polyps noted by endoscopy were 25 sessile polyps (50%), 8 pedunculated polyps (10%), 16 polypoidal mass (32%) and 1 pseudo polyp (2%). Histopathology variations were inflammatory polyps in 11 (22%), hyperplastic polyps in 18 (36%), tubular adenoma in 8 (16%), villous adenoma in 2 (4%), adeno carcinoma in 8 (16%), lympho proliferative

disorder in 1 (2%),fibro epithelial polyp in 2 (2%) and Peutz Jeghers polyps in 1 (2%) .

Table 1 Histology of polyps

Inflammatory polyps	**11 (22%)**
Hyperplastic polyps	18 (36%)
Tubular adenoma	8 (16%)
Villous adenoma	2 (4%)
Adeno carcinoma	8 (16%)
Lympho proliferative disorder	1 (2%)
Fibro epithelial polyp	2 (2%)
Peutz Jeghers polyps	1 (2%)

DISCUSSION

Of all the gastro intestinal polyps in our study colonic polyps were predominant, 28 patients (56%) of cases.

Table 2 Symptom wise presentation of colonic polyps

Bleeding per rectum	**14**
Altered bowel habits	4
Pain during defecation	4
Chronic diarrhea	2
Perianal fistula with discharge	2
iron deficiency anemia	1
Perioral pigmentation	1

From the above analysis it is clear that bleeding per rectum and altered bowel habits were the presenting symptoms in majority of patients with colorectal polyps (64%) which is in contrast to a study on colorectal polyps by Esmaily HA *et al*., where only 6.04% patients presented with bleeding per rectum, pus discharge and perianal pain.

Table 3 Colonic polyps-histopathology

Tubular adenoma	**5**
Tubulo villous adenoma	5
Villous adenoma	3
Hyperplastic polyps	10
Adeno Carcinoma	3
Peutz-Jeghers Polyp	1
Pseudo Polyp	1

It is clear from the above data that hyperplastic polyps are the most common (35%) histological type. This is in contrast to a study by Esmaily *et al*., Where tubular adenoma was the frequent subtype constituting 71% of all adenomtous polyps. A higher prevalence of hyperplastic polyps has been found in patients with colorectal cancer compared with those without colorectal cancer.[17] One study found an increased probability of neoplastic polyps in the same segment of the colon as the hyperplastic lesion.[18]

One patient who presented with blood and mucous diarrhea showed endoscopic features of inflammatory bowel diseae and histopathology showed inflammatory pseudopolyp. 2 patients of colonic polyps had histopathologic features of adenocarcinoma.

Esophageal polyps in this study showed histopathologic features of hyperplastic polyps in 2 cases (50%), inflammatory polyp in a case.This is similar to a previous study on hyperplastic polyps of the esophagus and esophago gastric junction by Abraham SC *et al*.

Gastric polyps in our study presented with hemetesis in a case, melena in a case, dyspeptic symptoms in 6 cases, vomiting in 3 cases, Anaemia for evaluation in 2 cases and asymptomatic in a case.As for the location of gastric polyps only 2 patients showed fundic polyps, antral polyps were 5, polyps in pyloric region were 4, 1 polyps involving body and 2 patient showed polyps scattered throughout the stomach. The histopathology of one patient with antral polyp turned out to the adenocarcinoma. Fundic gland polyps were inflammatory polyps. Rest of the gastric polyps was hyperplastic in 3 cases and adenomatous polyps in 2 cases. Fundic gland polyps are one of the most common polyps found in the stomach (47%),[19] observed in 0.8% to 23% of all endoscopies.[20-22] Gastric polyps are reported in 30% to 100% of patients with familial adenamatous polyposis [23]; the large majority-95%-are fundic gland polyps,while the remaining 5% are adenomatous polyps. The hyperplastic polyp is the second most common gastric polyp.

In the duodenal polyps in our study one turned out be a lympho proliferative disorder (IPSID) confirmed with immuno histochemistry. Three others showed non specific inflammation (75%).

In previous studies histopathology of duodenal polyps is inconsistent. In the descending duodenum, polyps are rare but significant numbers of them are adenomas. Biopsy is therefore mandatory in this localization.

CONCLUSION

This study has highlighted the importance of screening using endoscopy for patients with upper gastro intestinal symptoms by detection of unsuspected upper GI polyps (44%). Detection of polyps by proper screening during GI endoscopies is important, so that these cases are identified and included in regular surveillance programs. Patients with polyps should be offered proper treatment options like polypectomy and thorough examination.

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