



RECENT TRENDS IN THE HISTOLOGICAL SPECTRUM OF GASTROINTESTINAL POLYPS

Pathology

Dr. Sofiya. C* Assistant Professor, Department Of Pathology, Government Villupuram Medical College, Villupuram. *Corresponding Author

Dr. B. Pushpa Professor, Department Of Pathology, Government Omandurar Medical College, Chennai.

Dr. Veeraraghavan Department of Pathology

ABSTRACT

INTRODUCTION: Polyps are projections or elevations from the surface of mucosa. Histopathological examination of polyps is very important because of the risk of malignancy associated with certain polyps. The aim of this study is to analyse spectrum of polyps in different locations of Gastrointestinal tract. **MATERIALS AND METHODS:** This is a descriptive study conducted in Department of Pathology, Government Kilpauk Medical College for a period of 3yrs. 156 cases were included. Polyps were analysed based on age, sex, location, endoscopic appearance and histologic findings. **RESULTS:** Gastrointestinal polyps are most common in males(61.5%) and in age group of 46.60years(37.8%). Most of the polyps are sessile(73.1%) and occur in the large intestine(41.6%). The most frequent polyps based on locations are Squamous papilloma in esophagus, hyperplastic polyp in stomach, inflammatory polyp in small intestine and adenomatous polyp in large intestine. **DISCUSSION AND CONCLUSION:** The results were compared with other similar studies. Most of the study results correlated with study by Gurung P et al. Esophageal polyps correlated with study by Patit et al. Inflammatory polyps are the predominant Sessile polyps, Hyperplastic polyps are the predominant diminutive polyp and adenomatous polyps are the predominant pedunculated polyps. This study provides information regarding most frequent polyps based on locations and gross appearance and helps to find the changing trends in the incidence of polyps.

KEYWORDS

Gastrointestinal polyps, gross appearance, location, adenomatous polp.

INTRODUCTION

Polyps are elevations or projections from the mucosal surface. They are of serious concern nowadays because of the risk of malignancy associated with them. Many studies have shown that 70-90% of Colorectal carcinomas are associated with Premalignant lesion like Adenomatous Polyp.(1) The size, number, presence of villous architecture, location, grade of dysplasia, family history, presence of invasion are important to assess the prognosis of polyps. Information regarding pathogenesis and risk of malignancy is important to arrive at a diagnosis and to decide further treatment. This study aims to analyse the histopathological spectrum of polyps based on age, sex, location, size, histological findings which provides information on changing trends in the epidemiology of polyps and guide the clinician for better management.

MATERIALS AND METHOD

This is a descriptive study conducted in department of pathology, Government Kilpauk Medical College over a period of 3 years from

2016-2018. The study includes all specimens received as polyps based on endoscopy. The cases with polypoidal growth with gross appearance of malignancy were excluded from the study. Total of 156 cases were selected. The H&E slides were retrieved and reviewed. The Clinical details regarding age, sex, size, location and scopy findings were collected from the register. All the details with histological findings were entered in Excel sheet and analysed.

RESULTS

The results from this study shown that Gastrointestinal polyps were common in Males(61.5%) whereas esophageal polyps were common in females.(Table-1). All the polyps commonly occur in the age group of 46-60years(37.8%) but large intestinal polyps were common in age above 60 years.(Table-2). Majority of polyps present as sessile polyps accounting 73.1% followed by pedunculated polyps.(19.9%) Only 7% of polyps present as Diminutive polyps. Pedunculated polyps were more common in Large intestine.

Table-1 Common polyp locations according to sex

SEX	NUMBER OF POLYPS					
	ESOPHAGUS	STOAMCH	SMALL INTESTINE	LARGE INTESTINE	ANALCANAL	TOTAL
MALE	1	32	15	46	2	96(61.5%)
FEMALE	3	28	8	19	2	60(38.4%)
TOTAL	4	60	23	65	4	156

Table-2 Common location of polyps according to age group.

AGE (Years)	NUMBER OF POLYPS					
	ESOPHAGUS	STOAMCH	SMALL INTESTINE	LARGE INTESTINE	ANAL CANAL	TOTAL
<15	0	0	0	1	0	1(0.641%)
16-30	1	2	2	1	1	7(4.48%)
31-45	1	14	8	13	2	38(24.35%)
46-60	1	25	9	24	0	59(37.82%)
>60	1	19	4	26	1	51(32.69%)
TOTAL	4(2.6%)	60(38.7.5%)	23(14.7%)	65(41.6%)	4(2.6%)	156

All the esophageal polyps are sessile. The gastrointestinal polyps more frequently occur in the large intestine(41.6%) followed by stomach(38.5%). 2.6% of polyps occur in esophagus and analcanal.

Among the esophageal polyps 50% were Squamous papilloma cases. On analysing stomach polyps, Hyperplastic polyps occur frequently(56.7%) followed by inflammatory polyps(13.3%). One case of Serrated polyp was observed. 2 cases of Xanthoma and a case of melanoma deposit also present as polyp in the stomach. In

the small intestine, inflammatory polyps were predominant (34.8%) followed by adenomatous polyp(17.4%). One case of Peuts jeherts polyp was observed. Lymphoid tumors, neuroendocrine tumors and lipoma also present as polyp. Lipoma present commonly as pedunculated polyp. When the large intestinal polyps were analysed, adenomatous polyp occur more commonly(26.1%) followed by hyperplastic polyp(23.1%). 7 cases of juvenile polyps were reported. 3 cases of solitary Rectus Ulcer present as polyp.(Table-3).

Table-3 Polyps according to histologic type and endoscopic appearance

	Sessile	Pedunculated	Diminutive	Total
Esophagus	4	-	-	4
Squamous papilloma	2	-	-	2(50%)
Nonspecific inflammation	1	-	-	1(25%)
Adenocarcinoma	1	-	-	1(25%)
Stomach	56	1	3	60
Fundic gland polyp	2	-	-	2(3.3%)
Hyperplastic polyp	31	-	3	34(56.7%)
Inflammatory polyp	8	-	-	8(13.3%)
Serrated polyp	1	-	-	1(1.7%)
Adenomatous polyp	5	-	-	5(8.3%)
Nonspecific inflammation	3	1	-	4(6.6%)
Xanthoma	2	-	-	2(3.4%)
Adenocarcinoma	3	-	-	3(5%)
Melanoma deposit	1	-	-	1(1.7%)
Small Intestine	15	5	3	23
Hyperplastic polyp	1	-	1	2(8.6%)
Inflammatory polyp	6	-	2	8(34.8%)
Adenomatous polyp	3	1	-	4(17.4%)
PJ polyp	-	1	-	1(4.3%)
Lymphoid neoplasm	2	-	-	2(8.6%)
Lipoma	1	2	-	3(13%)
Neuroendocrine tumors	2	1	-	3(13%)
Large Intestine	38	22	5	65
Hyperplastic polyp	9	3	3	15(23.1%)
Inflammatory polyp	10	3	-	13(20%)
Juvenile polyp	3	4	-	7(10.9%)
Lipoma	-	1	-	1(1.5%)
Serrated polyp	-	-	1	1(1.5%)
Myoglandular polyp	-	1	-	1(1.5%)
Adenomatous polyp	9	8	-	17(26.1%)
SRUS	3	-	-	3(4.6%)
Adenocarcinoma	2	2	-	4(6.2%)
Nonspecific inflammation	2	-	1	3(4.6%)
Anal Canal	1	3	-	4
Inflammatory polyp	-	2	-	2(50%)
Skin tag	1	-	-	1(25%)
Hemorrhoids	-	1	-	1(25%)
TOTAL	114	31	11	156

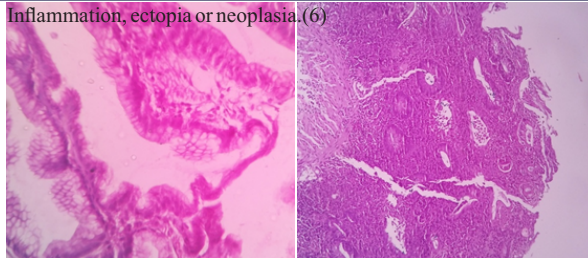
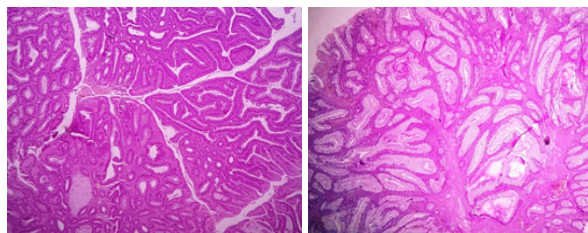
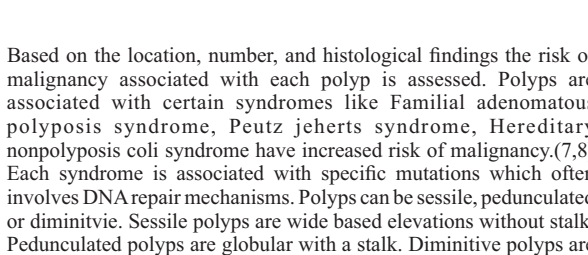
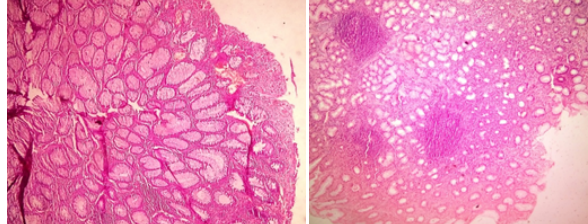
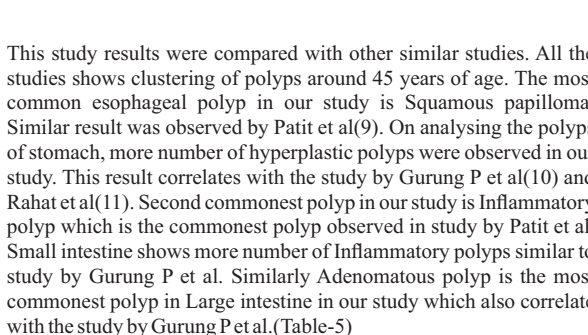
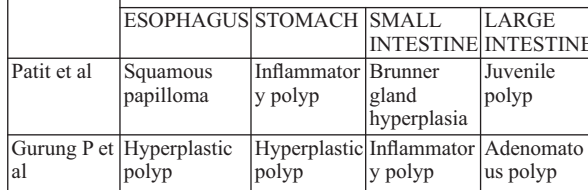
Among the adenomatous polyps 65% cases occur as sessile polyp. Tubular adenoma constitute 50%, villous adenoma constitute 35% and tubulovillous adenoma constitute 15% of adenomatous polyp. (Table-4) Inflammatory polyp constitute the commonest polyp in the Anal canal. A case of haemorrhoid and skintag also present as polyp in endoscopy. 2 cases of Familial adenomatous polyposis syndrome and 1 case of Peutz-Jeherts syndrome were observed.

Table-4 Adenomatous polyp

Polyps	Sessile	Pedunculated	Diminutive	Total
Tubular Adenoma	7	6	-	13(50%)
Villous Adenoma	7	2	-	9(35%)
Tubulovillous Adenoma	3	1	-	4(15%)
Total	17(65%)	9(35%)	-	26

DISCUSSION

Polyps are common in the Large intestine but they can occur anywhere throughout GIT. (2) The incidence of Polyp vary in different portions of GIT. Fundic gland polyps are the most common polyp in Stomach accounting 0.8-23% of all endoscopic biopsies. (3) Hyperplastic polyps are the commonest polyp in the large intestine and those located on the left sided colon are usually less than 5mm size (4,5). Small bowel polyps are commonly associated with Inherited syndromes. Most of the polyps occur due to epithelial/stromal hyperplasia,

Inflammation, ectopia or neoplasia. (6)**Figure 1- Serrated polyp showing serrations and crypt abscesses. 400x****Figure 2- Inflammatory polyp showing distorted glands and crypt abscesses. 100x****Figure 3- Adenomatous polyp showing closely packed back to back glands with mild atypia. 100x****Figure 4- Peutz-Jeherts polyp showing arborising glands with villous branching smooth muscle layer. 100x****Figure 5- Hyperplastic polyp with ulceration and serrations. 100x****Figure 6- Inflammatory polyp showing irregular glands with intervening lymphoid aggregates. 100x**

Based on the location, number, and histological findings the risk of malignancy associated with each polyp is assessed. Polyps are associated with certain syndromes like Familial adenomatous polyposis syndrome, Peutz-Jeherts syndrome, Hereditary nonpolyposis coli syndrome have increased risk of malignancy. (7,8) Each syndrome is associated with specific mutations which often involves DNA repair mechanisms. Polyps can be sessile, pedunculated or diminutive. Sessile polyps are wide based elevations without stalk. Pedunculated polyps are globular with a stalk. Diminutive polyps are

This study results were compared with other similar studies. All the studies shows clustering of polyps around 45 years of age. The most common esophageal polyp in our study is Squamous papilloma. Similar result was observed by Patit et al (9). On analysing the polyps of stomach, more number of hyperplastic polyps were observed in our study. This result correlates with the study by Gurung P et al (10) and Rahat et al (11). Second commonest polyp in our study is Inflammatory polyp which is the commonest polyp observed in study by Patit et al. Small intestine shows more number of Inflammatory polyps similar to study by Gurung P et al. Similarly Adenomatous polyp is the most commonest polyp in Large intestine in our study which also correlate with the study by Gurung P et al. (Table-5)

Table-5 Analysis of polyps in various studies.

	ESOPHAGUS	STOMACH	SMALL INTESTINE	LARGE INTESTINE
Patit et al	Squamous papilloma	Inflammatory polyp	Brunner gland hyperplasia	Juvenile polyp
Gurung P et al	Hyperplastic polyp	Hyperplastic polyp	Inflammatory polyp	Adenomatous polyp

Rahat et al	Fibrovascular polyp	Hyperplastic polyp	Inflammatory polyp	Juvenile polyp
Current study	Squamous papilloma	Hyperplastic polyp	Inflammatory polyp	Adenomatous polyp

Among the adenomatous polyps, Tubular adenoma is the commonest which correlates with study by Irfan Ahmed et al(12) and Chitale et al(13).

CONCLUSION

Increased number of polyps were detected because of advancement in endoscopy and polyps were of important concern because of the risk of malignancy associated with them. This study mainly focuses on the gross appearance and frequency of polyps based on locations. It helps the clinician to suspect the type of polyp during endoscopy, have an idea on the changing trends in the incidence of Gastrointestinal polyps and also guides them to proceed further plan of management earlier. All the polyps should be confirmed histopathologically and risk of malignancy should be assessed.

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