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RESEARCH ARTICLE

PROFILE OF COLONIC POLYPS IN A TERTIARY CARE CENTRE IN SOUTH INDIA.

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Abstract

Aim : To study the prevalence,histopathological types and pattern of distribution of colonic polyps in a cohort of patients evaluated in our tertiary care centre.

Materials and Methods : Data of patients undergoing colonoscopy between 2017-2018 for various abdominal complaints were analysed retrospectively for presence of colonic polyps.Age , gender, clinical symptoms and histopathological analysis were also included in the study.Statistical analysis was done using SPSS 23.0 version to arrive at correlations between pattern of distribution and histopathological types.

Results : A total of 1423 Colonoscopies were done during the 2 year period. Of them 152 cases were found to have Polyps including few patients with multiple polyps and overall a total of 207 Polyps were studied.Mean age of the study population was 57.61 years and most of them were males (77.6%).Polyps were more commonly located in rectum (20.3%) and sigmoid (25.1%).Most of the polyps were smaller in size <1cm (75.8%) and only few were >2cm (6.3%).Sessile polyps (77.3%) were more common then pedunculated (22.7%).Histology showed Adenomatous (63.7 %) followed by Hyperplastic (28%) and serrated (6.3%) were most common variety.Around 5.8% of polyps had high grade dysplasia and was more commonly seen in tubulovillous adenomas then tubular adenomas and also amongst serrated polyps.

Conclusion : Colonic polyps were noted in around 10 % all colonoscopies and are less common in south Indian population then their western counterparts,however similar to west adenomatous polyp is the most predominant type of histology.Larger polyps and polyps with villous component and serrated polyps have more chances of having high grade dysplasia.

Introduction:-

Colonic polyps are abnormal tissue growth projecting from the mucosa.The prevalence of colonic polyps in western population parallels the colorectal carcinoma rate and varies between 6.8 % to as high as 22 % [1,2].Prevalence rate in India also differs between regions with a range of 5.1 % - 12 %[3,4]. Colonic polyps assume significance due to the adenoma-carcinoma progression[5].Colonic polyps are generally asymptomatic,but larger polyps can present with

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rectal bleed , abdominal pain , intestinal obstruction and rarely malignant transformation.Hence colonoscopic surveillance and polypectomies are advocated to reduce the incidence of colonic malignancies.

In this observational study we sought to find the prevalence rate of colonic polyps.The study also analysed the pattern of distribution of polyps and various histopathological types.

Materials and Methods:-

Data of patients undergoing colonoscopy in our department over 2 years period between July 2016 to June 2018 were analysed retrospectively for presence of colonic polyps.For each patient,demographical profile including age,gender & indication for colonoscopy was noted.Data regarding the location of the polyp,number of polyp and morphological details including presence and absence of stalk and histology of the polyps were recorded.Details regarding the presence and severity of dysplasia in polyps were also noted.

Statistical Analysis :

The collected data were analysed with IBM.SPSS statistics software 23.0 Version.To describe about the data descriptive statistics frequency analysis, percentage analysis were used for categorical variables and the mean & S.D were used for continuous variables.To find the significance in categorical data Chi-Square test was used.

Results:-

A total of 1423 colonoscopies were done during the 2 year period.Of them 152 cases were found to have polyps.A total of 101 patients had single polyp while others had multiple.Overall a total of 207 polyps were studied that were detected in these 152 cases.

Mean age of the cases was found to be 57.61 years.Polyps were found to be more common in males as 118 out of 152 (77.6 %) were males while 34 out of 152 (22.4%) were females.

Colonoscopic examination showed that polyps were distributed throughout the length of the colon,however as shown in table 1 they were found to be more commonly localized on the left side as 52 polyps (25.1 %) were located in sigmoid and 42 polyps (20.3%) were found in rectum while in cecum only 17 polyps (8.2 %) were seen.Morphologically Sessile polyps were more commonly seen as 160 polyps (77.3%) were sessile and only 47 polyps (22.7) had an stalk and were pedunculated.

Similarly Most of the polyps (75.8 %) were smaller in size < 1 cm,while only 6.3% polyps were >2 cm & remaining 17.9 % polyps were between 1-2 cm.

Histopathological evaluation of the polyps showed that most of the polyps were either adenomatous (63.7%) or Hyperplastic (28%).Other less common varieties as shown in table 2 were serrated polyps (6.3%) and very few cases having juvenile retention,peutz jehgers and lymphoid polyp.

Among patients having adenomatous polyp (n =132),Tubular adenoma was the commoner subtype as 109 polyps (82.5 %) were tubular and remaining 23 (17.5%) were tubulovillous and none of the polyps had pure villous histology. High grade dysplasia was more commonly seen in patients having tubulovillous adenoma as 7 out of 23 (30.4%) polyps had high grade dysplasia while amongst patients with pure tubular pattern only 2 out 109 (1.8%) patients had high grade dysplasia.

Similarly In relation to the size of the polyp,Larger size adenomas were more commonly associated with high grade dysplasia as 4 out of 9 (44.4 %) adenomatous polyps with size > 2 cm were associated with high grade dysplasia while only 3 out of 96 (3.1 %) adenomatous polyps of size < 1 cm had high grade dysplasia.

Amongst 58 Hyperplastic polyps most of them were small and < 1 cm in size (84.4 %) and none of them showed any degree of dysplasia.Serrated polyps was the third most common variety seen in this study,Out of 13 serrated polyps 8 were pure serrated and other were mixed polyps with 3 being tubular – serrated and other 2 were hyperplastic – serrated.High grade dysplasia was seen in 2 out 8 (25 %) pure serrated and 1 out 3 (33.3) tubular serrated polyps.

In regard to Indication of colonoscopy in our institution as shown in table 3, chronic diarrhea (27.6 %),constipation (23.7%) and bleeding per rectum (21.1%) were the most common indication for cololonoscopy in these patients.

Table 1:-showing location of colorectal polyps

Location of Polyp	Frequency (n)	Percentage (%)
Rectum	42	20.3
Sigmoid	52	25.1
Descending colon	26	12.6
Transverse colon	47	22.7
Ascending colon	23	11.1
Cecum	17	8.2
Total	207	100

Table 2:-HPE of polyps showing various histological types

Histology of polyps	Frequency (n)	Percent (%)
Adenomatous	132	63.7
Hyperplastic	58	28.0
Serrated polyps	13	6.3
Juvenile Retention polyps	2	1.0
Peutz Jehgers polyp	1	0.5
Lymphoid polyp	1	0.5
Total	207	100

Table 3:-Common Indications for Colonoscopy in which polyps were detected

Indication	Frequency (n)	Percent (%)
Bleeding per rectum	32	21.1
Anemia evaluation	24	15.8
Chronic diarrhea	42	27.6
Abdominal pain	15	9.9
Constipation	36	23.6
Others	3	2.0
Total	152	100

Discussion:-

Colonic polyps is not an uncommon finding in colonoscopic studies and with few of them carrying the risk of being precursor of malignancy it is important to characterize them as neoplastic and non neoplastic polyps.Prevalence of colorectal carcinoma are widely available and show that it is much commoner even in Asian population although less frequent compared to western population [6,7]. In India , the crude rate is 2 per 100,000 [6,7] while it is approximately 4 per 100,000 in Sri Lanka[8] and 3 per 100,000 in Thailand [6,7] .Present study showed that around 10.6 % of patients undergoing colonoscopy in this tertiary centre in southern India had colonic polyps.This is similar to a study done by Jain M et al[4] who found colonic polyps amongst 12.7 % of all cases undergoing colonoscopy,however another study from Kerala by Tony J et al[3] noted polyps only in 5.1% of completed colonoscopy studies.Thus suggesting that chances of polyp detection rate is higher in symptomatic patients then in patients who are asymptomatic.In this study median age of the cases was 57.6 years which is slightly lower then in a study done by Jain M et al[4] in which median age was 61.1 years.However other studies including a study by Kumar et al[9] and an Amarapurkar series[10] showed polyp detection in relatively more younger patients.

In the present study most of the polyps were adenomatous (63.7 %) while next most common histological type was hyperplastic (28 %). Other South Indian studies also showed similar results as in study done by Jain M et al[4] in Tamil Nadu ,most common polyp type was adenomatous (48.9 %) followed by hyperplastic (23.7%) and similarly another study done in Kerela by Tony J et al[3] had still higher number of adenomatous polyps (79.8%) and they also

showed that amongst adenomatous polyps subtypes tubular was most common variety,followed by tubulovillous (24%) which is in concordance with the present study. However Wickramasinghe et al[11] found tubulovillous polyps were the commonest thus suggesting that polyp profile may vary differs in different regions owing to ethnicity,variations in pathology reporting and other environmental factors.

In regards to associated dysplasia in polyps , Tony J et al[3] showed that severe dysplasia was found in 43% of polyps with villous pattern and 12% of those with tubular pattern however in this study only 1.8 % of polyps with pure tubular pattern had high grade dysplasia while 30.4 % with tubulovillous variety ($p<0.001$) had high grade dysplasia suggesting that villous component increases the neoplastic potential of the polyps.Other Indian studies by Ashraf et al[12] from Kashmir and Amarapurkar series[10] from Mumbai also had similar finding of increasing severity of dysplasia with presence of villous component.

Our study also showed that larger adenomas have more chance of having high grade dysplasia as 44.4 % of polyps of size >2cm had high grade dysplasia ($p<0.001$). Study by Tony J et al[3] showed 76% of polyps of >2 cm size had severe dysplasia.Similary this study also showed that serrated polyps also tends to have higher malignant potential and more chance of having high grade dysplasia thus these polyp should preferably always be removed.

Hyperplastic polyps in our study were mostly smaller in size < 1cm and distally located and did not had any evidence of dyplasia,Thus whether During Colonoscopy to remove and sent for histopathological analysis of diminutive, distally located polyps is still a matter of debate as chances of most of them being non adenomatous is high.Few Institutions also follow Remove and Discard policy for smaller polyps to prevent any unnecessary risk of harbouring an adenoma by the patient.With the advent of newer advanced imaging endoscopic techiniques in the form Dye based Chromoendoscopy[13] and Electronic Chromoendoscopy like Narrow Band Imaging[14], colonic polyps can be better characterized and be differentiated into being neoplastic or non neoplastic,however long term studies are required to ascertain there role in this important differentiation and thus helping in prevention of colorectal cancer until then histopathological analysis of the of polyps remains the mainstay of polyp characterization of polyp morphology.

Conclusion:-

Colonic polyps were found in around 10 % of all colonoscopies & seems to be less common in south Indian population than in the West. However Similar to west adenomatous polyps are the predominant histologic type found here and amongst them larger polyps & polyps with villous component are more commonly associated with high grade dysplasia then smaller & tubular polyps.Most of the polyps are located in the left colon and are sessile.Hyperplastic Polyps were found to be completely non neoplastic without any degree of dysplasia.In contrast Serrated polyps are often associated with high grade dysplasia thus all serrated polyps should be removed.

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