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Retrospective Analysis of Colorectal Polyps Diagnosed on Sigmoidoscopy: Only possible to predict in children

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ABSTRACT

Aim: To analyse the characteristics of colorectal polyps diagnosed during sigmoidoscopy and to discover if it is possible to predict their presence, at liver clinic, Lahore.
Study design: Retrospective cohort study
Methods: This was a retrospective analysis of 82 patients in which colorectal polyps were detected during sigmoidoscopy. The age of the patients, count of the polyps and the distance of the polyps from the anal verge were the quantitative variables while the gender, age groups, indication for sigmoidoscopy, presence of stalk and anatomical distribution were the qualitative variables. The data was analyzed on SPSS version 15; where means and standard deviations were calculated for quantitative variables, and frequencies and percentages for qualitative variables.
Results: Colorectal polys were found in 82 (8.2%) patients from a total of the 1004 patients who underwent sigmoidoscopy. amongst these 82 patients, major gender was male 61(74.4%) and mean age was 37.54±18.27. in 55 patients, polyps were sessile while in 27 patients they were pedunculated.70 patients had countable polyps while 12 had numerous polyps (polyposis). among 70 patients with countable polyps, 60 had solitary polyps, 9 had 2 polyps and one patient had 4 polyps. among 12 patients with polyposis, 8 had pseudopolyps associated with colitis while 4 were diagnosed as suffering fromfamilial adenomatous polyposis (fap). the mean distance of the countable polyps from the anal verge was 19.69±10.19. the distribution of the countable polyps was as follow.
Conclusion: Colorectal polyp is a common finding on sigmoidoscopy. in majority patients, polyps are solitary, sessile and distal in distribution.
Keywords: Colorectal polyps, Sigmoidoscopy, Bivariate analysis, Odds ratio,

INTRODUCTION

Colorectal polyps are the mucosal masses that protrude into the lumen of the bowel.[1]Macroscopically, they may have a stalk (pedunculated) or without a stalk (flat or sessile)[2]. They may be sporadic or inherited. They may be solitary or multiple: where numerous polyps are termed as polyposis[3]. In text, they are classified into neoplastic and non-neoplastic polyps[1]. Neoplastic polyps are divided into malignant polyps and benign polyps like adenomatous polyps and serrated polyps. Non-neoplastic polyps include hyperplastic polyps, Juvenile polyps, Peutz-Jeghers polys and inflammatory polyps.

The prevalence of adenomatous polyps in asymptomatic persons in age group $\geq$ 50 years is 20-32%[4]; which can be sessile or pedunculated while serrated polyps are typically right sided, flat, with overlying mucus cap and indistinct borders[5]. Hyperplastic polyps[6] are small sessile lesions that are grossly indistinguishable from small sessile adenomatous polyp. Their prevalence increases with age and favorite site is rectum and sigmoid colon.Juvenile polyps[1,7] are most common at age 1 to 7 years and occasionally found in adults. They are usually single, pedunculated and large size polyps that tend to be in rectum. They can prolapse during defecation and vigorously bleed because of higher vascular supply. Inflammatory polyps (Pseudopolyps)[8] are formed due to regenerative process in severe colitis like IBD, severe amebic colitis, ischemic colitis or bacterial dysentery etc.Management of all colorectal polyps is endoscopic removal except pseudopolyps. Among non-neoplastic polyps, hyperplastic polyps are removed for the reason that they cannot be distinguished from sessile neoplastic ones, while juvenile polyps due to risk of vigorous bleeding. Surveillance colonoscopy after polypectomy is necessary to detect synchronous and metachronous polyps.[9]Similarly, histopathologic diagnosis is also necessary because after resection of high risk adenoma or serrated poly, surveillance colonoscopy is required after every 3 years and after resection of

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large sessile or malignant poly by piecemeal fashion, at 3-6 months; if normal, then every 3 years.[1]

The objective of this study was to analyse the characteristics of colorectal polyps diagnosed during sigmoidoscopy and to discover if it is possible to predict their presence, at Liver clinic, Lahore, Pakistan.

MATERIAL AND METHODS

This was a retrospective analysis carried out at Liver clinic, 250 Shadman Lahore. All the patients who were diagnosed as having colorectal polyps during sigmoidoscopy from February 2010 to July 2017 were included. The ages of the patients were categorized into child and adults, if their ages were <19 years and ≥ 19 years,respectively.[10]The indications for sigmoidoscopy were categorized into 2 groups: bleeding per-rectum (PR) and other than bleeding PR. The count of the countable polyps was noted while numerous polyps were labelled as polyposis.[3]Other characteristics of polyps observed during sigmoidoscopy like presence of stalk, their anatomical distribution and their distance from the anal verge were also noted.

The age of the patients, the count of the polyps and the distance of the polyps from the anal verge were the quantitative variables while the gender, age groups, indication for sigmoidoscopy, presence of stalk and anatomical distribution were the qualitative variables. The valuable data was analyzed on SPSS version 15. During descriptive interpretation of data, means and standard deviations were calculated for the presentation of quantitative variables, and frequencies and percentages were computed for qualitative variables. The bivariate analysis was performed in order to determine the significant relation of different predictive factors with presence of colorectal polyps. While applying chi-square test of independence, a p value of equal to or less than 0.05 was considered as significant.

RESULTS

Colorectal polys were found in 82 (8.2%) patients in a total of the 1004 patients who underwent sigmoidoscopy. The mean age of the patients harboring colorectal polyps was 37.54±18.27. The gender was male 61 (74.4 %) and female 21 (25.6%) patients. In 55 patients, the polyps were sessile while in 27 patients were pedunculated.Amongst 82 patients with polyps, 70 had countable polyps while 12 had numerous polyps (polyposis). Among 70 patients with countable polyps, 60 had solitary polyps, 9 had 2 polyps and one patient had 4 polyps. Among 12 patients with polyposis, 8 had pseudopolyps associated with colitis while 4 were diagnosed as suffering fromFamilial Adenomatous Polyposis (FAP).The distance of the countable polyps from the anal verge ranged from 5 to 60cm with a mean value of 19.69±10.19. The distribution of the countable polyps was as follow. 46 were found in rectum, 12 at rectosigmoid junction, 22 in sigmoid colon and 2 in descending colon. (Table 1&2)

Amongst the patients who underwent sigmoidoscopy, 41% (16 out of 39) children with age < 19 years had colorectal polyps while only 6.8% (66 out of 965) adults with age ≥ 19 years had colorectal polyps. The association of finding polyps in child age group undergoing sigmoidoscopy was statistically significant (p=0.000).Similarly, among the patients with bleeding PR as indication for sigmoidoscopy, 13.4 % (62 out of 462) had colorectal polyps while among the patients with indication for sigmoidoscopy other than bleeding PR, only 3.7% (20 out of 542) had colorectal polyps. Hence, finding of polyps was significantly associated with bleeding PR as indication for sigmoidoscopy (p= 0.000). However, among the patients who underwent sigmoidoscopy, 8.6% (61 out of 707) male and 7.1% (21 out of 297) female had colorectal polyps. Finding these colorectal polyps had no statistically significant association with gender (p=0.451). (Table 3)

Table 1:Descriptive statistics of quantitative variables

Quantitative Variables	**Min.**	**Max.**	**Mean± SD**
Age (Years)	6	77	37.54±8.27
Count of polyps, other than polyposis	1	4	1.21±0.59
Distance from anal verge of the polyps, other than polyposis (centimeter)	5	60	19.69±10.19

Table 2: Polyp characteristics

Characteristics	**Frequency%**
Presence of stalk (n=82)	
Yes (Pedunculated)	27(64.8%)
No (Sessile)	55(35.2%)
Count of Polyps (n=82)	
Solitary	60 (32.2%)
Two	9 (15%)
Four	1 (0.3%)
Numerous	12 (52.5%)
Diagnoses of numerous polyps(n=12)	
Inflammatory polyps	8 (66.7%)
Familial Adenomatous Polyposis	4 (33.3%)
Anatomical distribution of countable polyps	
Rectum	46(56.1%)
Rectosigmoid junction	12(14.6%)
Sigmoid colon	22(26.89%)
Descending colon	2(2.4%)

Table 3: Correlation of presence of polyps with different parameters (n = 82/1004).

Parameters /Categories	Colorectal polys		Total	p-value	Odd ratio with 95% Confidence interval
	Yes	No			
Male Female	61 (8.6%) 21 (7.1%)	646(91.4%) 276(92.9%)	707 297	0.451	1.241 (0.741-2.078)
Age groups: Children Adults	 16 (41%) 66 (6.8%)	 23 (59%) 899(93.2%)	 39 965	0.000	0.106 (0.053-0.209)
Indication of sigmoidoscopy Bleeding PR Others	62(13.4%) 20 (3.7%)	400(86.6%) 522(96.3%)	 462 542	0.000	0.247 (0.147-0.416)

DISCUSSION

Colorectal polyps are a common etiology for lower GI bleed especially in children. In adults, they are usually found during surveillance lower GI procedures. Early detection and removal of polyp especially neoplastic onereduces the risk of development of colorectal cancer[12].

In our study, colorectal polyps were detected in 8.2% of patients with median age being 37.5 years at the time of procedure. In a similar western study[13] detection rate was 12.6% with median age of the patients of 61 years.International datasuggests the preponderance of colorectal polyps in the male population[13,14]. In our study, similar findings were noted, where prevalence in males was 8.6% in comparison to females where prevalence was 7.1%. The easiness for both patient and physician and the lower cost for sigmoidoscopy make it the initial tool; however all patients were also advised complete colonoscopy after colonic preparation as per recommendations[15].

In our 8 patients, inflammatory polyps were detected. These patients had ulcerative colitis and pseudopolyps were suggestive of severity of disease. Similarly, in our study, four patients were diagnosed as suffering from FAP, where family history was also suggestive for this inherited disease.

In western study[13] the sigmoid colon was the commonest site for polyps 28(50%) followed by rectum 21(37.5%) and the overage polyp distance from the anal verge was 23.1 cm±SD, where as in our study, rectum was the commonest site for polyps 45(56.1%) followed by sigmoid colon 22(26.89%) and the overage polyp distance from the anal verge was 19.69 cm±SD. This difference may be due to the fact that in our study, 19.5 % polyps were detected in children below 19 years of age: among which juvenile polyps are common that tend to be in rectum. For the same reason in our study, bleeding PR as indication for sigmoidoscopy and being a child in age were significantly related to finding a polyp (p=0.000).

CONCLUSION

Colorectal polyp is a common finding during sigmoidoscopic examination. In majority patients, polyps are solitary, sessile and distal in distribution. Bleeding PR in children is predictive of finding a polyp on subsequent sigmoidoscopy.

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