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ORIGINAL ARTICLE

Frequency of rectal polyps among children presenting with rectal bleeding.

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ABSTRACT… Objective: To determine the frequency of rectal polyps among children presenting with rectal bleeding. **Study Design:** Cross Sectional study. **Setting:** Department of Paediatric Surgery, Khyber Teaching Hospital, Peshawar. **Period:** 22nd October 2022 till 22nd April 2023. **Methods:** Male and female patients in the age range 2 to 16 years presenting with lower GI bleed were enrolled. Patients were evaluated for cause of the bleeding. Presence of polyps on proctoscopy was considered confirmatory for the presence of rectal polyps. **Results:** A total of 236 patients were enrolled. Mean age of the patients was 6.68 ± 1.239 years. Male to female ratio was 2:1. Rectal polyps were observed in 80 patients (33.9%) patients. **Conclusion:** Rectal polyps are a common cause of lower GI bleed in children in our local population. Proctoscopy evaluation is a simple clinical tool for evaluation, diagnosis and management of rectal polyps.

Key words: Gastrointestinal Bleed, Children, Rectal Polyps.

INTRODUCTION

One of the most prominent presenting symptoms in children is bleeding per rectum (BPR). It may manifest as fresh coloured bright red, maroon, or black faeces.[1] The majority of general clinicians are not very versed in the knowledge of causes and alternative treatments for rectal bleeding in children. This may assist in comprehending why this issue was handled poorly. Lower gastrointestinal haemorrhage is a regular occurrence in children.[2]

Children's lower gastrointestinal bleeding has different pathogenesis than adults. It is typically acute, accompanied by mucous diarrhea, and caused by bacterial gastroenteritis. Other conditions such as Meckel's' diverticulum, juvenile polyps, anal fissure, haemorrhoid's, colitis, and other mucosal diseases can also results in bleeding per rectum in paediatric population.[3] Polyps are abnormal growths that emerge from the large intestine's lining (colon or rectum). The last 12 inches of the large intestine is recognized as the rectum. Polyps can develop on a stalk like broccoli or they can be flat. One of the most prevalent disorders affecting the large intestine is polyps.[4]

Most polyps don't cause any symptoms and don't transform to malignancy. However, those associated with polyposis syndromes, the polyps might eventually enlarge and transform into rectal cancer over the duration of 8–10 years. Polyps are the precursor to almost all rectal malignancies.[5] Usually, rectal polyps do not cause any symptoms. However, rectal bleeding, bloody stools, mucus discharge, mass, protrusion from the anus, and abdominal pain are just a few symptoms that can appear. Changes in bowel habits, including constipation and diarrhea can also occur.[6]

A study including 111 children with mean age 9.6±5.1 years, with (62.2%) male, and (37.80%) female reported the highest rate of occurrence in patients aged 11-18 years (41.40%). The rectal polyps were observed among (18.9%) 7 of patients. Rectal polypectomy is a complete cure, however most of the time referral is delayed.[7]

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Our study aim is to determine the frequency of rectal polyps among children presenting with bleeding per rectal, so that early recognition, referral and timely management can be done.

METHODS

This observational descriptive cohort study was conducted in Department of Paediatrics Surgery, Khyber Teaching Hospital, Peshawar from 22nd October 2022 till 22nd April 2023.

This study included 236 cases of bleeding per rectum with non-probability consecutive sampling technique. Sample size was calculated using WHO sample size formula using the proportion, expected frequency of polyps, p = 18.9%.[7] Margin of error was kept 5% with the confidence Level of 95%. Both gender (Male & Female), Patients in the age range (2-16) Years and Patients with per rectal bleeding as defined in the operational definition were included in the study. Patients with systemic disease, patients with inadequate bowel preparation, patient not giving consent and those patients who underwent colorectal surgery were excluded from the study.

The research was forwarded after receiving approval from the hospital's ethical review board and the College of Physicians and Surgeons of Pakistan (CPSP) research unit (730/DME/KMC). Patients were informed of the goals, risks, and advantages of the study, and a signed written informed consent form was collected. Patients' demographic information, particularly gender, age, and address, was kept on file. To make sure the inclusion criteria are effectively addressed, a thorough medical history and physical examination was conducted. Patients with per rectal bleeding were subjected for rectal examination for the identification of rectal polyps. A senior consultant with at least three years of post-fellowship experience looked over the entire assessment. The patients' data was collected on a designated proforma. IBMM SPSS v. 23 was used for the data entry and analysis of data. Mean + Standard Deviation was determined numerical data like age. Frequencies and percentages were determined as categorical variables like gender, rectal polyps, and residence area. The rectal polyps were stratified by age, gender, and residence area to see the effect modifiers. Post-stratification chi-square test was performed at 5 % level of significance.

RESULTS

In the current report, the ages of the patients ranged from 2 to 16 years with a mean of 6.68 ± 1.239 years. The mean duration of illness was 10.35 weeks as show in Table-I. The male to female ratio, frequency and percentage of patients by age, and the frequency of rural and urban residence of the patients is shown in Table-II, Table-III and Table-IV. Among the study population 80 patients (33.1%) were found to have rectal polyps (Table-V). Patients were stratified into two age groups, those less than 8 years and those greater than 8 years and no significant difference in the occurrence of rectal polyps was found (X^2 = $p>0.05$) as shown in Table-VI. Although, male patients had higher frequency of rectal polyps (37.9%) as compared to females (27.5%), however, this difference was statistically insignificant (X^2 = $p>0.05$) as shown in Table-VII. Majority of our patients were from rural areas (61.9%), however there was no significant difference in rectal polyps among rural and urban children (X^2 = $p>0.05$) as shown in Table-VIII.

Baseline Demographics and Characteristics	Mean ± Std. Deviation
1. Patient Age (years)	6.68 ± 10.239
2. Disease Duration (weeks)	10.01 ± 3.353

Table-I. Mean ± SD of patients according to age, height, weight, BMI, Disease Duration. N = 236

Patient Gender	Frequency	Percent
Male	145	61.4
Female	91	38.6
Total	236	100.0

Table-II. Frequency and %age of patients according to gender N = 236

Age (Years)	Frequency	Percent
8 Years Or Below	170	72.0
More Than 8	66	28.0
Total	236	100.0

Table-III. Frequency and %age of patients according to Age N = 236

Residence	Frequency	Percent
Rural	146	61.9
Urban	90	38.1
Total	236	100.0

Table-IV. Frequency and %age of patients according to residence N = 236

Rectal Polyps	Frequency	Percent
Yes	80	33.9
No	156	66.1
Total	236	100.0

Table-V. Frequency and %age of patients according to rectal polyps N = 236

		Rectal Polyps			P-Value
		Yes	No	Total	
AGE (years)	≤8	62 (36.5%)	108 (63.5%)	170 (46.4%)	0.180
	>8	18 (27.3%)	48 (72.7%)	66 (53.6%)	
Total	80 (33.9%)		156 (66.1%)	236 (100%)	

Table-VI. Stratification of rectal polyps with respect to Age N = 236

		Rectal Polyps			P-Value
		Yes	No	Total	
Gender	Male	55 (37.9%)	90 (62.1%)	145 (46.4%)	0.098
	Female	25 (27.5%)	66 (72.5%	91 (53.6%)	
Total		80 (33.9%)	156 (66.1%)	236 (100%)	

Table VII. Stratification of rectal polyps with respect to Gender N = 236

		Rectal Polyps			P-Value
		Yes	No	Total	
Resi-dence	Rural	54 (37.0%)	92 (63.0%)	146 (46.4%)	0.201
	Urban	26 (71.1%)	64 (28.9%)	90 (53.6%)	
Total		80 (33.9%)	156 (66.1%)	236 (100%)	

Table VIII. Stratification of rectal polyps with respect to residence N = 236

DISCUSSION

In the current study we evaluated children who were referred for proctoscopy due to isolated lower intestinal bleeding without diarrhea. Our findings add important new information to the literature which is deficient in this regard especially in our demographics. In a recent study, colorectal polyps were the most common abnormality, detected in 33.9% of patients.[1] Most of the reported polyps are juvenile polyps, usually found as solitary lesions in the left colon. In a report, among children, only four had multiple polyps, and no patient had polyps greater than 3 in number. One child has a polyp on the splenic flexure.[3] Of the patients with a single polyp, only 4 had a lesion immediately adjacent to the splenic flexure. Overall, 6.5% were located in this area.[7]

Our results differ to a significant degree from those published by Fox et al., which found 60.9% of juvenile polyps to be single and 66.6% of polyps were located in the left colon while 33.3% proximal the splenic flexure.[8] Similarly, Poddar et al. reported that 85% rectal polyps in their study were located in the rectosigmoid area which was similar to the data reported by Mosottic et al where they reported: 76% solitary polyps.[9,10]

Only 19.5% of patients with painless lower gastrointestinal bleeding and only 14.8% of patients who also had abdominal pain without changes in bowel habit had polyps, according to a recent study.[11] These results contrast with ours which excluded cases of polyposis syndromes and considered all colonoscopies with findings of polyps, irrespective of clinical presentation. However, we excluded patients with polyposis syndromes and those with lower gastrointestinal bleeding and associated symptoms, which may account for the variation in the prevalence compared with our study.[12,13]

Moreover, previous studies indicate that juvenile polyps are more prevalent in male patients, which concords with the findings of several other studies.[14] However, there was no statistically significant difference between male and female patients in our research. According to Fox et al., 3.9% of their group had neoplasia. In each of these cases, individuals had more than five polyps.[15,16] There were no neoplasia instances or individuals with more than three polyps in our

research. The different cohort compositions and the fact that our study did not include any patients with more than three polyps may account for this discrepancy. All things considered, this data suggests that neoplasia is seldom, if ever, discovered after colonoscopies taken for painless lower gastrointestinal bleeding.[17,18] Notably, our study included 6 (3.2%) individuals with ulcerative colitis. They all had proctitis. Compared to recent research that examined individuals with painless rectal bleeding, epigastric discomfort, or neither, but no change in bowel motions, this percentage is lower. In that study, 10.7% of the patients had inflammatory bowel disease. Pan colonoscopy is now the suggested procedure for assessing children who experience recurring painless rectal bleeding.[19,20] Every subject in this research underwent a full colonoscopy. Consequently, we discovered that a little but noteworthy percentage of patients (6.5%) had polyps close to the splenic flexure.[21,22]

The limitation of our study is that it is a retrospective study and comprehensive data about several factors could not be obtained. Our paediatric isolated lower gastrointestinal haemorrhage cohort study is one of the few that evaluated the results of colonoscopies carried out for this reason.

CONCLUSION

Among children presenting with isolated lower GI bleeding, 33.9% will have rectal polyp as the cause of bleeding. Screening colonoscopy in these patients may be appropriate to look for associated pathologies, however, further prospective studies are required to evaluate this approach.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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REFERENCES

1. Mahmud S, Parvez M, Baidya M, Tasneem F, Hasan AR, Farhana T, et al. **Colonoscopic polypectomy of juvenile polyps in children: Experience from a tertiary centre of Bangladesh.** Gastroenterology & Endoscopy. 2024 Jan; 2(1):1-6.

2. Wang Y, Fang L, Huang K, Pan T, Lu H, Yan X. **Characteristics and risk factors for colorectal polyps among children in an urban area of Wenzhou, China: A retrospective case control study.** BMC Pediatr. 2023 Aug 19; 23(1):408.

3. Abdullah Jan S, Ajmal G, Naimatullah Z. **Colonoscopic finding in children with lower gastrointestinal complaints.** JGH Open. 2023 Dec 8; 7(12):863-8.

4. Kodia K, Huerta CT, Perez EA. **Rectal prolapse in the pediatric population—a narrative review of medical and surgical management.** Transl Gastroenterol Hepatol. 2024 Jul; 9:47-47.

5. Dipasquale V, Romano C, Iannelli M, Tortora A, Princiotta A, Ventimiglia M, et al. **The management of colonic polyps in children: A 13-year retrospective study.** Eur J Pediatr. 2021 Jul 16; 180(7):2281-6.

6. Cohen S, Yerushalmy□Feler A, Rojas I, Phen C, Rudnick DA, Flahive CB, et al. **Juvenile polyposis syndrome in children: The impact of SMAD4 and BMPR1A mutations on clinical phenotype and polyp burden.** J Pediatr Gastroenterol Nutr. 2024 Jul 27; 79(1):161-7.

7. Isa HM, Alkharsi FA, Ebrahim HA, Walwil KJ, Diab JA, Alkowari NM. **Causes of gastrointestinal bleeding in children based on endoscopic evaluation at a tertiary care center in Bahrain.** World J Gastrointest Endosc. 2023 Apr 16; 15(4):297-308.

8. Kim YI, Joo JY, Yang HR. **Inflammatory cloacogenic polyps in children: diagnostic yield of rectal retroflexion during colonoscopy.** BMC Gastroenterol. 2022 Dec 3; 22(1):42.

9. Song M, Emilsson L, Roelstraete B, Ludvigsson JF. **Risk of colorectal cancer in first degree relatives of patients with colorectal polyps: Nationwide case-control study in Sweden.** BMJ. 2021 May 4; n877.

10. Talib MA, Aziz MT, Suleman H, Khosa GK, Joya SJ, Hussain I. **Etiologies and outcome of lower gastrointestinal bleeding in patients presenting to a tertiary care Children's Hospital.** Pak J Med Sci. 2021 Feb 4; 37(2).

11. Arredondo Montero J, Carracedo Vega E, Razquin Lizarraga S, Bronte Anaut M, Hernández-Martín S, de Lima Piña G, et al. **Pediatric rectosigmoid atypical juvenile polyps presenting with rectal prolapse and acute bleeding: A case report and a comprehensive literature review.** Pediatric and Developmental Pathology. 2024 Jul 11; 27(4):340-7.

12. Das SR, Karim ASMB, RukonUzzaman M, Mazumder MW, Alam R, Benzamin M, et al. **Juvenile polyps in Bangladeshi children and their association with fecal calprotectin as a biomarker.** Pediatr Gastroenterol Hepatol Nutr. 2022; 25(1):52.

13. Tripathi PR, Sen Sarma M, Yachha SK, Lal R, Srivastava A, Poddar U. **Gastrointestinal polyps and polyposis in children: Experience of endoscopic and surgical outcomes.** Digestive Diseases. 2021; 39(1):25-32.

14. Huang Y, Zhuang P, Chen G, Huang Y, Dong K, Xiao X, et al. **Clinical characteristics and management of colorectal vascular malformation in children: A retrospective study of 23 cases.** European Journal of Pediatric Surgery. 2023 Aug 13; 33(04):279-86.

15. Kourti A, Dimopoulou A, Zavras N, Sakellariou S, Palamaris K, Kanavaki I, et al. **Inflammatory fibroid polyp of the anus in a 12‐month‐old girl: Case report and review of the literature. J** Paediatr Child Health. 2022 Aug 21; 58(8):1313-6.

16. Azari-Yam A, Alimadadi H, Safavi M. **Juvenile polyps with osseous metaplasia: Report of two pediatric cases and review of the literature.** Fetal Pediatr Pathol. 2022 Jan 2; 41(1):166-70.

17. Jama AA, Basimbe F, Emmanuel O, Kakande I. **Clinical characteristics and histopathological findings in colorectal polyps among colonoscopy patients at a sub-Saharan hospital.** Endosc Int Open. 2023 Mar 8; 11(03):E217-20.

18. Di Nardo G, Esposito F, Ziparo C, Strisciuglio C, Vassallo F, Di Serafino M, et al. **Faecal calprotectin and ultrasonography as non-invasive screening tools for detecting colorectal polyps in children with sporadic rectal bleeding: A prospective study.** Ital J Pediatr. 2020 Dec 20; 46(1):66.

19. Vitale DS, Wang K, Jamil LH, Park KH, Liu QY. **Endoscopic mucosal resection in children.** J Pediatr Gastroenterol Nutr. 2022 Jan 3; 74(1):20-4.

20. Emami A, Shokri Shirvani J, Hosseini A, Hamidi SH. **Solitary rectal ulcer transformation to cap polyposis in a 15-year-old child.** BMC Gastroenterol. 2022 Dec 7; 22(1):104.

21. Margam S, V. Patil M, Rathod U, Deshmukh M, D. Kalgutkar A. **Spectrum of gastrointestinal polyps: A tertiary care hospital experience of five years.** Indian Journal of Pathology and Oncology. 2020 Dec 28; 5(4):656-62.

22. Sahn B, Bitton S. **Lower gastrointestinal bleeding in children.** Gastrointest Endosc Clin N Am. 2016 Jan; 26(1):75-98.

AUTHORSHIP AND CONTRIBUTION DECLARATION	
1	**Muhammad Arshad:** Conceptualize and initial draft, method.
2	**Muhammad Ishfaq:** Data entry, management.
3	**Sajjad Ali:** Data analysis, project admin.
4	**Muhammad Imran:** Provide support in manuscript, data collection.
5	**Verdah Qadir Baloch:** Data collection and method.
6	**Muhammad Nabeel Hayat:** Result part, data collection.
7	**Sohaib Ahmad:** Review, editing the final manuscript.
8	**Nawazish Ali:** Review, editing the final manuscript.