

Original Article

Demographic and Clinical Profile of Patients with Colorectal Polyp — An Observational Study

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ABSTRACT

Introduction: Colorectal polyps are common findings during routine colonoscopies. Colorectal polyps represent a significant risk factor for the development of colorectal carcinoma. Comprehensive knowledge of the demographic and clinical characteristics of patients with these polyps is essential for effective management and the prevention of colorectal cancer. **Aim of the study:** This study aimed to investigate the demographic and clinical profile of patients with colorectal polyps. **Methods and materials:** This cross-sectional observational study was conducted at the Department of Pathology, Sir Salimullah Medical College, Dhaka, Bangladesh from March 2021 to February 2023. A total of 71 histopathologically diagnosed cases of colorectal polyp were purposively enrolled as study subjects. Data collection utilized a semi-structured, pre-designed questionnaire, and MS Office tools were employed for data analysis. **Results:** In this study with 71 patients, the median age was 50.0 years, and 56.3% were male. Colorectal polyps were histopathologically analyzed,

revealing 43.7% adenomatous,

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21.12% hyperplastic, and 19.7% juvenile polyps. Most cases (87.3%) had no significant associated diseases, with 7.0% diagnosed with Familial Adenomatous Polyposis (FAP). Polyp sizes were <1.0 cm in 54.9% and ≥ 1 cm in 45.1%. Single polyps were observed in 56.3%, while 43.7% had multiple polyps. Among the patients, 56.3% had pedunculated, 23.9% irregular, and 19.7% sessile polyps. **Conclusion:** Colorectal polyps predominantly affect middle-aged individuals, with a slight male predominance. The most common histopathological types include adenomatous, hyperplastic, and juvenile polyps. Among these cases, pedunculated shapes and single polyps are the prevailing characteristics.

Keywords: Demographic, Clinical profile, Colorectal polyp, Adenomatous, Hyperplastic, Cancer

INTRODUCTION

Colorectal polyps are slow-growing protrusions above the surrounding mucosa of the colon, carrying a small risk of malignancy [1]. Adenomatous polyps, particularly, are well-recognized precursors to cancer [2]. Polyps can be categorized as sessile, growing directly from the stem without a stalk, and pedunculated, having a mucosal stalk. They are further divided into neoplastic (inflammatory, hamartomatous, hyperplastic) and non-neoplastic (adenomatous) types. Sessile serrated lesions, also known as sessile serrated adenomas, histologically overlap with hyperplastic polyps [3]. Approximately 85-90% of sporadic colorectal carcinomas arise from adenomas, while about 20-30% can originate from sessile serrated polyps [4,5]. Hamartomatous polyps are also associated with an increased risk of cancer [6]. Colorectal cancer ranks as the third most common cancer and the second leading cause of cancer-related death globally [4]. Colorectal cancer sees approximately 1.3 million annual diagnoses, with the highest incidence occurring between the ages of 60 and 79 [7]. Previously, colorectal cancer had low incidence rates in most parts of the world; however, there is now an increasing trend

observed in some regions, showcasing demographic differences from Western patients [8]. The progression of adenoma to adenocarcinoma is a well-accepted concept and forms the basis for screening programs for colorectal carcinomas, typically conducted through colonoscopy [9,10]. The prevalence of colorectal polyps/adenomas is high and comparable between both sexes [11]. This prevalence varies across countries, with approximately 10% in sigmoidoscopy studies and over 25% in colonoscopy studies among asymptomatic patients [12]. In Bangladesh, cancer stands as one of the leading causes of increasing death and morbidity in the coming years [13]. Early diagnosis and management of colonic polyps play a crucial role in preventing colorectal carcinoma.

METHODS AND MATERIALS

This cross-sectional observational study was conducted at the Department of Pathology, Sir Salimullah Medical College, Dhaka, Bangladesh, from March 2021 to February 2023. A total of 71 cases diagnosed with colorectal polyps, confirmed through histopathological examination, were purposively enrolled as study subjects. The study received approval from the ethical committee of the

mentioned hospital, and proper written consent was obtained from all participants before data collection. Following the inclusion criteria, colonoscopic polypectomy samples and resected colons in known cases of familial adenomatous polyposis were included. Conversely, in line with the exclusion criteria, samples deemed too small for immunohistochemical staining, those with diagnosed cases of colorectal carcinoma, and patients who had undergone chemotherapy or radiotherapy were excluded. Demographic and clinical information of all participants was recorded, and data were processed, analyzed, and disseminated using MS Office tools.

RESULT

In this study, involving 71 patients, the median age was 50.0 years, ranging from 4 to 75 years. The majority of cases (32.4%) fell within the 51-65 age group, totaling 23 cases, followed by the 36-50 age group with 16 cases (22.5%) (Table I).

Table I: Age distribution of participants (N=71)

Age (years)	n	%
4-20	13	18.30%
21-35	10	14.10%
36-50	16	22.50%
51-65	23	32.40%
>65	9	12.70%

More than half of the patients (56.3%) were male and 43.7% of patients were female (Figure 1).

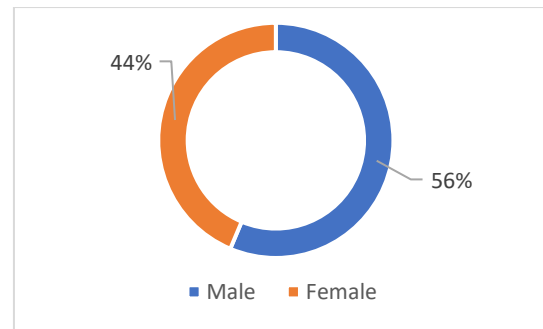


Figure 1: Gender distribution of cases

The histopathological analysis of colorectal polyps revealed that 31 cases (43.7%) were diagnosed as adenomatous polyps. Hyperplastic polyps were the next most common, accounting for 21.12% (15 cases), followed closely by juvenile polyps at 19.7% (14 cases). Inflammatory polyps constituted 11.26% (8 cases), while Puetz-Jeghers polyps and sessile serrated lesions (SSL) were the least common types, representing 1.4% (1 case) and 2.8% (2 cases) of the study cases, respectively (Figure 2).

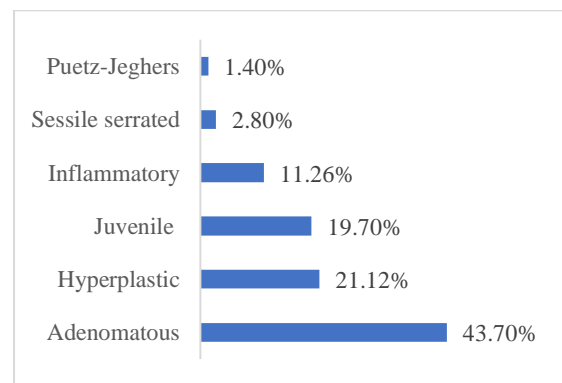


Figure 2: Histopathological type of colorectal polyp

The majority of cases (87.3%) did not exhibit any significant associated diseases. However, 7.0% were diagnosed with Familial Adenomatous Polyposis (FAP). Among the remaining cases, one patient each had Juvenile Polyposis Syndrome,

Peutz-Jeghers Syndrome, Ulcerative Colitis, and Crohn's Disease (**Table II**).

Table II: Distribution of cases by associated disease

Disease	n	%
Absent	62	87.30%
FAP	5	7%
Crohn's disease	1	1.40%
JPS	1	1.40%
Ulcerative colitis	1	1.40%
PJS	1	1.40%
Total	71	100%

In the study, 54.9% of patients had polyp sizes less than 1.0 cm, while 45.1% had polyp sizes equal to or more than 1 cm. Additionally, 56.3% of patients presented with a single polyp, while 43.7% had multiple polyps (**Table III**).

Table III: Size and number of colorectal polyp distribution

Criteria	n	%
Size (in cm)		
<1	39	54.90%
≥1	32	45.10%
Number		
Single	40	56.30%
Multiple	31	43.70%

Among the 71 patients, 56.3% had pedunculated polyps, 23.9% had irregular polyps, and 19.7% had sessile polyps (**Figure 3**).

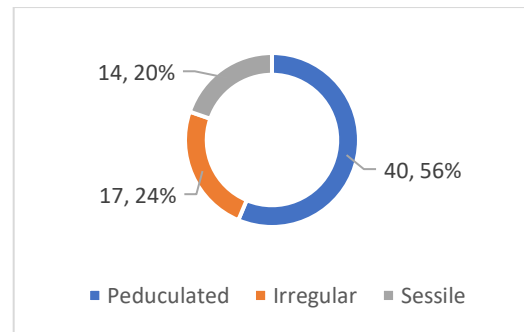


Figure 3: Distribution of shape of colorectal polyp

DISCUSSION

This study reveals a higher prevalence of colonic polyps in elderly patients, with a median age of 50.0 years (range: 4-75 years). The majority of cases (32%) fall within the 51-65 age group. In terms of gender distribution, 56.3% were male, indicating a male predominance. This aligns with findings from Abdulhameed et al., where males constituted 62.2% of cases [2]. Another study by Nassrat et al. also demonstrated a male predominance of 60% compared to 40% for females [9]. It's noteworthy that this contrasts with the age group most commonly affected in the study by Suheil and Mahdi, which reported the highest incidence in the 36-50 age group [1]. The majority of patients in this study (87.3%) had no significant associated diseases, while 7.0% were diagnosed with Familial Adenomatous Polyposis (FAP). The FAP cases involved polyps with sizes <1 cm and were solitary, characterized as inflammatory type. In terms of polyp size, 54.9% of patients had polyps smaller than 1.0 cm, while 45.1% had polyps equal to or larger than 1 cm, with sizes ranging from 0.2 cm to 4 cm. Comparatively, Nassrat et al. reported a mean size of colorectal adenomas as 1.2 cm, ranging from 0.3 to 3.2 cm, and Sousa et al. observed polyp sizes ranging from 0.3 cm to 2.5 cm [9,14]. In this study, 56.3%

of patients had a single polyp, while 43.7% had multiple polyps. This aligns with findings from Vernillo et al., where 55.1% of patients had a single polyp and 44.9% had multiple polyps [13]. Regarding the polyp characteristics, 56.3% were pedunculated, 23.9% were irregular, and 19.7% were sessile. A similar distribution was observed by Vernillo et al., with 57.7% pedunculated and 42.3% sessile polyps among 71 cases [13]. The study also noted that most polyps were found in the rectum, consistent with findings from Nassrat et al. and Safiyeva and Byramov [9,14]. Adenomatous polyps constituted approximately half (43.7%) of the diagnosed cases in this study.

LIMITATION OF THE STUDY

The study faced challenges in reaching the intended sample size due to time constraints and the influence of the Covid situation. As a result, the study samples were obtained from a single institute, leading to concerns about the generalizability of the findings nationwide. The limited sample size and the exclusive focus on a single institute may constrain the study's external validity. Caution is advised when applying the results to the broader population.

CONCLUSION & RECOMMENDATION

Colorectal polyps exhibit a predilection for middle-aged individuals, with a slight male predominance. The prevalent histopathological types encompass adenomatous, hyperplastic, and juvenile polyps, with pedunculated shapes and single polyps emerging as predominant features. This demographic and clinical profile underscores the importance of targeted screening and surveillance

strategies for middle-aged individuals, emphasizing the need for early detection and management of colorectal polyps to mitigate potential complications.

FUNDING

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CONFLICT OF INTEREST

None declared

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee

REFERENCES

1. Mahdi LH, Suheil SS. The Expression of P53 and ki67 in Colonic Polyps. *Kufa Journal for Nursing Sciences*. 2015 Aug 25;5(2):218-25.
2. Abdulhameed TT, Jaff ZO, Maaruf NA. Clinicopathological study and immunohistochemical evaluation of cyclin D1 in adenomatous polyps. *Zanco Journal of Medical Sciences (Zanco J Med Sci)*. 2021 Apr 27;25(1):456-63.
3. Kumar, V., Abbas A.K. and Aster J.C., 2021. Neoplasia. In: *Robbins and Cotran pathologic basis of disease, 10th edition, Philadelphia: Elsevier, pp.267-338*.
4. Mathews AA, Draganov PV, Yang D. Endoscopic management of colorectal polyps: From benign to malignant polyps. *World Journal of Gastrointestinal Endoscopy*. 2021 Sep 9;13(9):356.
5. Cooper, H.S., 2015. *Intestinal neoplasm. In: E.M. Stacey, ed. Sternberg's diagnostic surgical pathology, 5th Edition. Philadelphia: Wolters Kluwer, pp.1368-1431*.
6. Turner JR. The gastrointestinal tract In: Kumar V, Abbas AK, Aster JC. eds. *Robbins and Cotran Pathologic Basis of Disease. 9th ed Elsevier Inc. 2015:749-819*.
7. Williet N, Petcu CA, Rinaldi L, Cottier M, Del Tedesco E, Clavel L, Dumas O, Jarlot C, Bouarioua N, Roblin X, Peoc'h M. The level of epidermal growth factor receptors

- expression is correlated with the advancement of colorectal adenoma: validation of a surface biomarker. *Oncotarget*. 2017 Mar 3;8(10):16507.
8. Jemal A, Center MM, DeSantis C, Ward EM (2010). Global patterns of cancer incidence and mortality rates and trends. *Cancer Epidemiol Biomarkers Prev*, 19, 1893-907.
 9. Adelstein BA, Macaskill P, Turner RM, Katelaris PH, Irwig L (2011). The value of age and medical history for predicting colorectal cancer and adenomas in people referred for colonoscopy. *BMC Gastroenterol*, 11, 97.
 10. Neri E, Faggioni L, Cini L, Bartolozzi C (2010). Colonic polyps: inheritance, susceptibility, risk evaluation, and diagnostic management. *Cancer Manag Res*, 3, 17-24.
 11. Ferlitsch M, Reinhart K, Pramhas S, et al (2011). Sex-specific prevalence of adenomas, advanced adenomas, and colorectal cancer in individuals undergoing screening colonoscopy. *JAMA*, 306, 1352-8.
 12. Giacosa A, Frascio F, Munizzi F (2004). Epidemiology of colorectal polyps. *Tech Coloproctol*, 8, 243-7.
 13. Noshu K, Kawasaki T, Chan AT, Ohnishi M, Suemoto Y, Kirkner GJ, Fuchs CS, Ogino S. Cyclin D1 is frequently overexpressed in microsatellite unstable colorectal cancer, independent of CpG island methylator phenotype. *Histopathology*. 2008 Nov;53(5):588-98. Sousa, W.A.T.D., Rodrigues, L.V., Silva Jr, R.G.D. and Vieira, F.L., 2012. Immunohistochemical evaluation of p53 and Ki-67 proteins in colorectal adenomas. *Arquivos de gastroenterologia*. 49, pp.35-40.
 14. Safiyeva, A., & Bayramov, N. The Ki-67 immunohistochemical expression of colorectal polyps.