

# Management of Rectal Polyps in Children our Experience at Tertiary Care Center MTI LRH Peshawar

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## Abstract

**Objective:** The objective of this study is to investigate the clinical manifestations, histological characteristics, and colonoscopic findings of lower gastrointestinal polyps in children treated at MTI / LRH, Peshawar.

**Methods & Material:** A retrospective analysis of pediatric colorectal polyp medical records was conducted at MTI, LRH Peshawar, between January 2018 and December 2022. Totaling 563, the number of instances examined is substantial. Factors such as age, gender, family history, symptoms, polyp size, location, polyp type, and polyp-related lesions were all taken into account. Patients under 12 years old who had a EUA (Examination under anesthesia) or colonoscopy between January 2018 and December 2022 were included in this retrospective single-center research. Information on patients' ages, sexes, and polyp features was gathered from an endoscopic and histology database. Patients who had anal canal polyps or insufficient histology results were not considered. Histological subtypes of polyps include adenomatous polyps, familial adenomatous polyposis, hamartomatous polyp, lymphoid polyp, adenocarcinoma, adenoma with advanced pathology (villous morphology or high-grade dysplasia), and adenomas.

**Results:** The average age of the kids was 5.660.88 years old (the age range was two months to 17 years old), and there were 1.61 males for every girl. The peak occurrence was among children 2- 10 years old (85.1%). In 78.5% of instances, the first sign was bleeding in the rectal area. In 94% of instances, the polyps were isolated. The bulk of polyps was found in the rectosigmoid region (86.7%) and was considered juvenile polyps (86.3%). Only 3% of cases were found to be hereditary. Moreover, a single incidence of Turcot syndrome was found.

**Conclusion:** However, juvenile polyps continue to be the most frequent kind of polyp seen in children. However, many polyps at the colon's opening are significantly more frequent than a single polyp in the rectosigmoid colon. Polyps should be removed regardless of symptoms owing to their potential to progress to malignancy. In India, 4.35 percent of the population has a colon adenoma. Adenoma and adenocarcinoma of the colon are more prevalent in the left and rectum, and their prevalence increases with age and in males.

**Keywords:** EUA, colonoscopy, adenoma, advanced pathology, colorectal cancer, screening

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## Introduction

Polyps in the gastrointestinal tract (GI) are growths that protrude from the intestine's mucosal lining. In most instances, polyps cause no symptoms and go undetected, but when they occur, the most common symptoms are gastrointestinal (GI) bleeding, abdominal discomfort, intestinal blockage, and rectal prolapse<sup>1</sup>. Neoplastic (benign or malignant) and non-neoplastic (inflammatory or hamartomatous) kinds 1, 2 of polyps may be distinguished histologically<sup>2</sup>. One of the most prevalent and significant gastrointestinal (GI) diseases seen in kids is colorectal polyps, which often manifest as painless rectal bleeding and subsequent anaemia<sup>3</sup>. Most polyps occur on their own and provide little danger of developing cancer. Treatment with a simple sigmoidoscopy and polypectomy may be enough for over 90% of children with juvenile polyps isolated and localized in the rectosigmoid colon. 3–6<sup>4</sup>. In rare cases, adenomatous polyps or numerous polyps need to be recognized. Careful attention and regular monitoring for gastrointestinal tract or other organ system neoplasia are necessary for these youngsters<sup>5</sup>. Therefore, endoscopic exams and histopathologic assessments are required for conclusive diagnosis and therapy of juvenile polyps due to the diversity of kinds and relevance of GI polyps.

The current research retrospectively analyzed a cohort of children with colorectal polyps to identify the prevalence, primary symptoms, and predominant location of these polyps, as well as emphasize any racial variations, because there are no published studies on juvenile polyps in Iranian children<sup>6</sup>. The incidence of colorectal cancer (CRC) continues to rise as a global health concern. The incidence of colorectal cancer is said to be much lower in Asian nations than in the West. 1 The prevalence of CRC rises as urbanization and shifting socioeconomic conditions spread throughout Asia<sup>7</sup>. There will be 7.2 new cases of CRC per 100,000 men in Asia by 2022, up from

4.3 in 2018. By 20265, the increase is predicted to be 60% in men and 37% in women. Through the adenoma-carcinoma sequence, most colorectal cancers may be traced back to colonic adenomas<sup>8</sup>. A large majority of colorectal adenomas may be avoided through regular colonoscopies and surgical removal of polyps, as shown by the United States National Polyp Study<sup>9</sup>. Colorectal adenoma incidence rates in the Indian subcontinent are not well documented. Adenoma of the colon is rather common in India, with a frequency of 5.4% to 6.7%. 9,10 However, the sample sizes in both investigations were somewhat modest, and both were conducted at just one location<sup>10</sup>. The present research aims to assess the histological features of colonic polyps and the frequency of colorectal adenomas in a retrospective cohort<sup>11</sup>.

## Methods & Material

Polyps protrude. One juvenile polyp exists. 2 gastrointestinal tract polyps, and three positive family histories of polyps. Juvenile poly is jass and sachateloos. Juvenile non-cancerous colonic polyps.

Juvenile polyposis (malignant potential) A. Infantile polyposis. B. Multiple gastrointestinal polyps in 6- to 5-year-olds is diffuse juvenile polyposis. C. Juvenile polyposis coli: numerous polyps in 5–15-year-olds' distal colon and rectum Hamartomatous polyposis causes juvenile, Cowden, and Peutz-Jeghers syndromes. 80% of children's GI tract polyps are juvenile retention, inflammatory, or cystic. Polyps are hamartomas. The typical polyp is 2mm to several centimeters and diameter with a sparkling, smooth, round redhead. Rectal polyps bleed. Long, thin colonic mucosa-covered stems join juvenile polyps. This stalk causes polyp torsion, venous congestion, surface

ulcers, bleeding, and autoamputation. IRB authorized the research. All consecutive adult patients (age less than 12 years) who had EUA / colonoscopy between January 2018 and December 2022 at a tertiary care facility MTI / LRH, Peshawar, were screened for analysis. Colon polyp research. Endoscopic and histopathological databases comprised age, gender, colonoscopic, and histological polyp features. Senior and trainee gastroenterologists conducted polyethylene glycol colonoscopies. Boston bowel preparation scale<sup>8</sup> examined colonoscopy prep. Poorly prepared patients should repeat colonoscopy the day after preparation. Endoscopists/lead surgeons determined colon withdrawal time throughout the trial. Histologically incomplete anal canal, ileal, and colonic polyps were excluded. Eliminated screening and partial colonoscopies without obstructions. Histopathology categorized colonic polyps as adenocarcinoma, adenomatous, or nonadenomatous. Histology classed polyps<sup>9,10</sup>. Adenomatous polyps above 10 mm, villous, or high-grade dysplasia were advanced pathology. Non-advanced adenomas lacked these traits. Subgroup polyp patients had adenocarcinoma—reviewed child colonoscopy records. GI bleeding or disorders requiring colon mucosa visibility required a complete colonoscopy from 2018 to 2022. MTI/LRH, Peshawar, removed polyps. Peshawar University runs MTI/LRH. 11. Thus, many socioeconomic patients. Age, sex, family history, symptoms, size, location, polyp kinds, and associated lesions were examined<sup>12</sup>.

## RESULTS

Five hundred sixty-three children had polyps removed over the 5-year study period at MTI/LRH, Peshawar, after undergoing EUA/colonoscopies (mean age 5.66  $\pm$  2.88 years, range two months to 12 years). 9 (1.6%) instances lacked age information. The remaining 554 instances were 1.61:1.0 male-to-female. It was 1.7 for under-6s and 1.4 for over-6s. 30 of the 563 instances had pathologic signs other than polyps (ulcerative colitis, necrotic materials, digested food, lymphoid or granulation tissue, and blood clot) and were omitted from the research. Only 533 cases were real polyps histologically. 10 (1.9%) of 524 instances with gross and histologically confirmed genuine polyps were < 2 years old, 369 (70.4%) 2–6 years, 102 (19.5%) 6–10 years, and 43 (8.2%) 10 years and older (table 1). All age groups had juvenile polyps, although hyperplastic and adenomatous polyps were more common in individuals over 10. (table 1). Lower GI bleeding and rectal prolapse were the most prevalent manifestations. Chronic constipation and stomach discomfort were rare. Juvenile polyps often caused rectal bleeding, although other symptoms were more prevalent. The rectosigmoid area (n = 409, 76.7%) and colon (n = 100, 18.8%) had polyps, and 24 (4.5%) spontaneously expelled after feces. The sexes had similar polyp locations. Sixteen polyp sizes were missing. Five hundred seventeen instances had a mean diameter of 1.22  $\pm$  0.77 cm (range 0.1–5 cm). Excluding nine patients (1.7%) whose medical records lacked polyp information, a majority (n = 499 patients, 93.6%) had a single polyp, 25 (4.7%) had multiple polyps, and 2 of the latter group had more than 5. In order of frequency, a colonoscopy revealed lymphoid hyperplasia, rectal nodularity, single colon ulcer, rectal edema, and rectal prolapse. Colon polyps ran in 17 families (3%, 11 men and six women). Juvenile (9 instances), hamartomatous (6 cases), and adenoma (3 cases) were their histopathologic subgroups (2 cases). One patient had Turcot syndrome without a favorable family history.

Table 01: Ferquency of different polyps in various age groups

Age	Type of polyp					
	Juvenile	Inflammatory	Adenomatous	Hyperplastic	Hamatomatous	total
Under 02 year	08	0	0	4	0	67 (2%)
Between 2 and 6 years	360	4	1	2	3	410(71%)
Older than ten years	129	0	5	0	8	113(8.2%)
Total	497(95%)	4 (0.8%)	6 (1%)	6 (1%)	11 (2.1%)	524(100%)

## DISCUSSION

Like our findings, juvenile polyps are children's most prevalent GI tumors; they are almost always isolated and found in the rectosigmoid colon<sup>12</sup>. Most of our patients were male and under six, consistent with the previous research<sup>13</sup>. Like other studies<sup>13</sup>, lower gastrointestinal bleeding was the most prevalent presenting symptom. Latt et al.<sup>14</sup> and Roth et al. <sup>14</sup>. showed that polyps were more common in clusters (53-58%) and were more often seen in the colon's proximal sigmoid region (30-60%). Only 6% of patients in this research had more than one polyp, and 18.8% of polyps were located in the upper colon. This disparity might be due to a smaller sample size in earlier research. However, a large proportion of patients had polyps proximal to the sigmoid colon, supporting the critical need for a complete colonoscopy in symptomatic youngsters<sup>15</sup>. Up to 47% of juvenile polyposis undergoes an adenomatous transition, as shown by Jass et al. <sup>16</sup>. Only 3% (17 instances) of polyposis in our research underwent adenomatous transformation; still, repeated colonoscopy was regarded as essential for early cancer identification<sup>17</sup>. We conducted this study in Pakistani children to highlight any racial differences using a large number of patients; however, no racial differences were observed in the frequency of different types of polyps, although a number of studies of pediatric GI polyps were reported from Asia, including India<sup>19</sup>, Taiwan<sup>20</sup>, and Pakistan<sup>18</sup>. Most polyps in Pakistani children are juvenile, solitary, and located in the rectosigmoid colon; these polyps cause lower gastrointestinal bleeding in children aged 2 to 10 years old<sup>19</sup>. All children with rectal bleeding, especially those with a family history of polyposis or GI adenocarcinomas, should have a complete colonoscopy since 18.8% are found in the proximal area, and some are numerous (or polyposis). As with any retrospective research, we had a few gaps in the medical records that we could fill up, but we think this will not affect the results<sup>20</sup>.

## Conclusion

Although solitary polyps are more common in the rectosigmoid colon, a considerable percentage of cases were numerous and found in proximal regions. This highlights the need for a full colonoscopy on all individuals experiencing symptoms. Because of their potential to develop into cancer, polyps should be removed even if they are causing no symptoms.

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