

Endoscopic Profile of Children with Colorectal Polyps Attending a Tertiary Centre

Upadhyay S¹, Sharma A², Sapkota P³

Abstract

Introduction: Polyps are the most common causes of colorectal bleeding in children. This report describes an endoscopic profile of children with colorectal polyps at Nepal Medical College and Teaching Hospital. **Materials and Methods:** This prospective study was conducted in children who were evaluated for painless lower GI bleed who underwent colonoscopy in Nepal Medical College, Kathmandu, Nepal from November 2014 to May 2017. Patients with age of presentation less than or equal to 18 years and diagnosed endoscopically to have colorectal polyp were included in the study and were followed up till histopathological reports. **Results:** A total of 35 children with colorectal polyps were identified. Twenty-three (65.7%) patients were males and 12 (35.3%) were females, male/female ratio being 2.1: 1. The mean age of the patients at the time of diagnosis was 5.2 years (± 3.7 years), (range 1.3-13.5) years. The duration of bleeding varied from 1 week to 3 years (mean 13 months), and 23 (67.6%) children were symptomatic for more than 12 months. All patients (100%) had painless rectal bleed, eight (23.5%) presented with anaemia and two of them requiring blood transfusion before the procedure (< 7.0 gm/dl), seven (20.5%) patients had blood and mucus in stools, six (17.6%) of them had rectal mass (prolapsed polyp). **Conclusion:** Juvenile colorectal polyps are the most common cause of painless rectal bleeding in young children. In the majority, these are solitary, occur in the rectosigmoid. Delay in treatment may cause anaemia. Colonoscopic snare polypectomy is a safe therapeutic modality.

Key words: Gastrointestinal, Juvenile rectal polyp

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Introduction

Polyps are the most common causes of colorectal bleeding in children^{1,2}. Intermittent indolent rectal bleeding is the main symptom of colonic polyps. Polyp is a benign rounded hamartoma of the large bowel. Juvenile polyp may be present in large numbers in children and is commonly associated with rectal bleeding³. Isolated juvenile polyp is the most frequent kind of polyp identified in children. 'Juvenile' refers to the histological type of polyp and not the age of onset of the polyp³. Juvenile polyps are generally thought to be hamartomatous lesion with little malignant potential. They have been

reported to be solitary and recto-sigmoid in location in 80-90% of cases^{4,5}. It is difficult to differentiate the hyperplastic polyps and adenomatous ones without histological examinations. Moreover, repetitive bleeding may lead to iron deficiency anaemia. Therefore, early detection and polypectomy are necessary for all colonic polyps^{6,7}. Fiberoptic colonoscopy is a routine modality for the diagnosis and treatment of colorectal polyps in paediatric population⁸. Although there have been clinical studies on colonic polyps in children in India⁵, there is dearth of data because of lack of paediatric colonoscopy facility in Nepal. The aim of this study was to describe the endoscopic profile of children with colorectal polyps at Nepal Medical College and Teaching Hospital.

Materials and Methods

This prospective study was conducted in children who were evaluated for painless lower GI bleed who underwent colonoscopy in Nepal Medical College, Kathmandu, Nepal from November 2014 to May 2017. Patients with age of presentation less than or equal to 18 years and diagnosed endoscopically to have colorectal polyp were included in the study. Bowel preparation was done with polyethylene glycol. In accordance with the institutional protocol, endoscopic procedures on patients were performed under sedation (Midazolam 0.1 mg/kg along with Ketamine 1 mg/kg) administered by anaesthesiologists/paediatrician. Procedures were performed once patients were sedated after monitoring of vital signs and oxygen saturation. Colonoscopy was performed with Karl Storz pediatric video colonoscope (outer diameter 11.2mm, working channel 3.4mm). Colonoscopic polypectomy was performed with the loop snare technique.

The excised polyp was retrieved with a tripod basket or a net catheter and subjected to a histopathological examination. The data related to age, gender, clinical presentation, size, number, location, and histopathology of colorectal polyps were collected and analyzed. Polyps were anatomically categorized as left colonic (if found in the splenic flexure and distal colon), right colonic (if found proximal to the splenic flexure), and pan-colonic (if found both distal and proximal to the splenic flexure).

Procedures were performed only after patients' parents or legal guardians had signed informed consent forms. Data obtained from the patient population were then analysed and studied using SPSS (Version 16) statistical program.

Results

A total of 35 children with colorectal polyps were identified. Twenty-three (65.7%) of the patients were

males and 12 (35.3%) were females, (Fig 1) the male/female ratio being 2.1: 1. The mean age of the patients at the time of diagnosis was 5.2 years (± 3.7 years, range 1.3-13.5) years. Table 1 outlines the spectrum of presenting symptoms. Painless rectal bleed (haematochezia) was the most common symptom and it varied from streaks of blood in stools to passage of drops of fresh blood after defecation. The duration of bleeding varied from 1 week to 3 years (mean 13 months), and 23 (67.6%) children were symptomatic for more than 12 months.

Table 1: Spectrum of Presenting Symptoms

S.N	Symptoms	Number	Percentage
1	Painless rectal bleed	34	100%
2	Anaemia	8	23.5%
3	Anal mass/(Prolapsed polyp)	6	17.6%
4	Blood and mucous in stool	7	20.5%

Apart from painless rectal bleed, eight (23.5%) presented with anaemia and two of them requiring blood transfusion preoperatively (<7.0 gm/dl), seven (20.5%) patients had blood and mucus in stools, six (17.6%) of them had rectal mass (prolapsed polyp). Twenty two patients (64.7%) had a solitary polyp and thirteen patients (35.3%) had multiple polyps. Two polyps were found in seven patients (20.5%), three polyps in three patients (0.08%), four polyps in two patients (0.05%), and multiple polyps in one patient. Majority of the polyp were pedunculated 53 (90%) and 6 (10%) were sessile.

Table 2: Location of Polyp

S.N	Location	Number of Polyp (%)
1	Rectum	38(62.2%)
2	Sigmoid	16(30.1%)
3	Descending Colon	3(5.6%)
4	Transverse Colon	1 (1.8%)
Total		100%

Table 2 summarizes the location of polyp. Of all polyps found, thirty three (62.2%), the largest number of all, were located in rectum. Table 3 outlines the size of polyp. The size of the polyps varied in the range between 4 mm and 30 mm. 41 (77.3%), the largest number, had diameter between 10 mm -19 mm.

Table 3: Size of Polyp

S.N	Diameter (mm)	Number of Polyp (%)
1	0- 10 mm	8 (13.6%)
2	10-19 mm	47(79.7%)
3	20-30 mm	4 (6.7%)
Total		100%

All polyps in the study were excised using the loop snare technique. Pre-operative submucosal saline-epinephrine injection was used in 6 (11.3%) sessile polyps. We also analysed the histopathological reports. 34 patient's histopathological reports were consistent with Juvenile rectal polyp. Histologically, juvenile polyp had a distinctive cystic architecture, mucus-filled glands, a prominent lamina propria with or without infiltration with inflammatory cells. One of the patients had a history of polypectomy in other health care facility, hyperpigmented macules on the lips and oral mucosa and had multiple polyps. Histopathology of polyp revealed hamartomatous polyp with arborisation of muscularis mucosae covered with normal villi thus confirming the clinical diagnosis of Peutz-Jeghers Syndrome.

Discussion

The most common cause of painless colorectal in children in our study were benign juvenile polyps. The mean age in our study was 5.2 years old, and was similar to that in several previous reports^{9,10} but was younger than reported in the other studies^{11,12}. The male to female ratio in this study was 2.1:1, which was similar with previous studies^{11,12,13}. The reason for this gender bias is not well understood thus far.

The clinical spectrum of our children with polyps differs from other series^{5,14,15}. All 35(100%) children had haematochezia with or without other symptoms, the mean duration of bleeding per rectum (13 months) was much higher than reported previously by Cynamon and Pillai^{6,15}.

Eight (23.5%) children presented with anaemia (haemoglobin < 10.0 gm/dl) among our patients compared with other reported series^{6,16}. Two of them required blood transfusion because their haemoglobin < 8.0 gm/dl before procto-sigmoidoscopic removal of polyps. The incidence of anaemia in our group is due to prolonged periods of rectal bleeding before they were brought for medical advice at our centre, as all (100%) of children had bleeding per rectum with mean duration of 13 months. The delays in early referral resulted from public ignorance about the condition, frequency of dysentery, coexisting nutritional anaemia that is prevalent in our country¹⁷ and a lack of appreciation by family doctors about rectal polyps being one of the common causes of painless rectal bleeding. It is generally accepted that juvenile rectal polyps are usually solitary^{14,18,19} but recent reports suggest that multiple polyps do occur in 20-35% of the paediatric population^{6,20,21}. In the present study, multiple polyps (maximum three) were found in twelve patients (35.3%) patients. Recurrence has not been noted till this study was done whereas 9-17% of recurrence has been noted in other major series^{6,21}. Bleeding and perforation are the known complications following sigmoidoscopic removal of polyps. 5-14% of complication has been noted in others^{15,22}. No complication was noted in this study.

Conclusion

Juvenile colorectal polyps are the most common cause of painless rectal bleeding in young children. In the majority, these are solitary, occur in the recto sigmoid. Delay in treatment may cause anaemia. Colonoscopy snare polypectomy is a safe therapeutic modality.

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