

PER RECTAL BLEEDING IN CHILDREN

WAJEEHUDDIN, ALI RAZA BROHI

ABSTRACT

- Objective* To find out different causes and management of bleeding per rectum in infants and children.
- Study design* Descriptive study.
- Place & Duration of study* The study was conducted in various hospitals where authors have worked from January 2005 to December 2007.
- Patients and Methods* All children under 12 years of age and presenting with a common symptom of bleeding per rectum were included. The data was reviewed for age, gender, clinical characteristics and management. In all cases CBC and in selective cases stool DR were done. Some patients were subjected to sigmoidoscopy. The rectal polyp and mucosal biopsy were sent for histopathology.
- Results* The study included 80 patients, of whom 57 (71.25 %) were boys and 23(28.75%) girls, with male to female ratio of 2.5:1. The mean age at diagnosis was 6.31 years. Rectal polyps were the most common cause and found in 45(56.25%) children. Polyps were diagnosed with digital rectal examination and by sigmoidoscopy. Twenty one (26.25%) children were treated conservatively with the suspicion of infectious colitis. Non specific colitis (n=2), intussusception (n=3), Meckel's diverticulum(n=1), ulcerative colitis(n=2) and anal fissure(n=2) were the other causes.
- Conclusions* Colorectal polyps are common cause of rectal bleeding in children. Proper physical examination including per rectal digital examination along with the endoscopy promotes both rapid and accurate diagnosis and the opportunity for immediate therapeutic measures.
- Key words* Per rectal bleeding, Rectal polyp, Digital per rectal examination, Sigmoidoscopy.

INTRODUCTION:

In our medical practice per rectal bleeding is one of the common problems in children, even then general doctors do not have awareness regarding causes and management of per rectal bleeding in children. That is why they are mostly mismanaged. Lower gastrointestinal bleeding in infants and children is commonly encountered in clinical practice, although its epidemiology has not been well studied.¹⁻⁵

The etiology of lower gastrointestinal bleeding is different in children from that of adults. The causes are usually simple, and require little or no treatment, for example, anal fissure, juvenile polyps, but sometimes these symptoms may indicate more severe and life threatening conditions, such as Intussusception, Meckel's diverticulum, midgut volvulus and peptic ulcer disease.¹⁻³ Chronic cases of minor lower gastro intestinal bleeding produce significant anemia thus localization of the source of bleeding is important in the management of these children.^{4,5} A careful history, inspection of the perianal area, digital rectal examination and a stool test confirm the common causes of per rectal bleeding in children. Other techniques like endoscopy,

Correspondence
Dr. Wajeehuddin
Department of Paediatric Surgery
Baqai Medical University, Karachi

radiology, technetium-labeled red blood cells scans, and angiography are available for diagnostic evaluation.⁶ The objective of this study was to find out the etiology of bleeding per rectum in infants and children and management provided.

PATIENTS AND METHODS:

This is a review of 80 children who were managed from January 2005 to December 2007 in various hospitals where authors worked. Children who were under 12 years of age with a common symptom of per rectal bleeding were included. All children with bleeding per rectum reviewed to document the clinical characteristics and management. A thorough history was taken and all patients were clinically examined including per rectal digital examination. In case of rectal polyp, polypectomy was done and sent for histopathology. In cases where polyp was not found by per rectal digital examination they were given empirical treatment with suspicion of infectious colitis secondary to entamoeba histolytica or gram negative organisms of gut. The treatment included metronidazole and nalidixic acid for the period of two weeks. Stool for detailed report was also sent. After the treatment patients who had persistent bleeding underwent sigmoidoscopy. All other causes of per rectal bleeding in children were treated accordingly. The demographic data, clinical presentation, sigmoidoscopic and histologic findings were analysed. Because of non availability of fiberoptic scope rigid sigmoidoscopic examination was done under general anesthesia.

RESULTS :

The study included 80 patients, of whom 57 (71.25 %) were boys and 23(28.75%) girls with male to female ratio of 2.5:1. The mean age at diagnosis was 6.3 years. The mean duration of bleeding was 6.5 months (range; 1 day to 4 years). Nineteen (23%) children were symptomatic for a year or more. The underlying causes of bleeding are summarized in table 1.

Rectal polyps were the most common cause and found in 45(56.25%) children. It was four times (3.88%) more often in boys than girls. The mean age of presentation was 6 years and the youngest patient was 1.6 years old. Thirty one (68.88%) children were between 5 and 10 years of age. Anemia (Hb%<10Gm/dl) was documented in 12 children (26.66%). Polyps were diagnosed with digital rectal examination and sigmoidoscopy. Fourteen children (31.11%) had prolapsed polyps through anus. Solitary polyp was identified in 44 (97.77%) children and in one patient there were two polyps. All polyps were removed successfully by endoscopy. No surgical complication occurred. Histopathology of all the 45 cases showed juvenile polyps. Thirty (37.5%) children had nothing significant on clinical examination including per rectal digital examination. They were treated conservatively with the suspicion of infectious colitis initially for 2 weeks. Twenty one (70%) children were treated successfully and symptoms relieved on subsequent follow up. One child was lost to follow up. In eight(26.66%) children

complaint persisted and they were advised for sigmoidoscopy. Sigmoidoscopy was done in 5 patients. In one patient a polyp found which was juvenile on histological examination. Two patients had non specific colitis, 2 ulcerative colitis and 3 were lost to follow up. Non specific colitis (n=2), intussusception (n=3), Meckels diverticulum (n=1), ulcerative colitis (n=2) and anal fissure (n=2) were the other causes.

We found only a single case of Meckel's diverticulum, which was diagnosed on clinical examination as patient was bleeding profusely per rectally and coagulation and bleeding profile were normal. Exploratory laparotomy was done. There was a broad based bleeding Meckel's diverticulum found. Wedge resection with primary closure was done and tissue sent for histopathology. Three (3.75%) children had intussusception which were diagnosed clinically and confirmed by ultrasonography. Exploratory laparotomy done in all the cases. All had ileo cecocolic intussusception, which was reduced manually. Two cases (2.5%) of anal fissure were also included in this study. They were treated conservatively.

TABLE: 1 CAUSES OF PER RECTAL BLEEDING

S.No	Causes	No	Percentage
1	Rectal Polyp	45	56.25
2	Infectious Colitis	21	26.25
3	Ulcerative Colitis	2	2.5
4	Non Specific Colitis	2	2.5
5	Intussusception	3	3.75
6	Anal Fissure	2	2.5
7	Meckel's Diverticulum	1	1.25

DISCUSSION:

A commonly encountered situation of per rectal bleeding in children has mostly common causes and requires proper evaluation and straightforward treatment. The source of bleeding can be identified by thorough physical examination and rigid sigmoidoscopy. In this study 97.77% rectal polyps were found by digital examination and removed at sigmoidoscopy. In one largest report, rectal bleeding was the chief complaint in 0.3 percent of more than 40,000 patients presenting to the Boston Children's Emergency Department between September 1991 to August 1992.¹ In our study polyps were the most common cause of rectal bleeding (56.25%). The reported prevalence of juvenile polyps in children. The reported prevalence of juvenile polyps in children undergoing endoscopic examination for various indications varies from 4 % to 17 % in western data.^{12,13,14} In India it was very high (61%),¹⁵ reflecting high incidence in this region. Polyps may cause anemia secondary to passive blood loss in stool.^{9,10} In this study anemia was found in 12(26.66%) cases with polyps. Forty four (97.77%) children were diagnosed to have rectal polyp with digital examination and with rigid sigmoidoscope in one child (2.22%) only. Digital examination is still an important tool in the diagnostic methods in children. Other reports show 60-70% of colorectal polyps by digital

examination.¹⁸ Juvenile polyps are usually benign, however, adenomatous changes and cases of colorectal carcinoma arising from juvenile polyp have been reported.^{19,20} In our study there was no single case found with dysplastic changes; whereas others have reported it from 0.3% to 11% in their series.^{9,11,21,22} All juvenile polyps should be removed to avoid the risk of future malignancy, even though the children are asymptomatic. Good surgical technique is very important to avoid any complication, We encountered no complication fortunately in our series, however others showed 5-14% complications like bleeding and perforation.^{12,21,23}

Non-specific colitis in children is often one of the causes of per rectal bleeding in children. Lesions are restricted to rectum but may extend proximally to involve sigmoid colon.²⁴ In our study we experienced 2 (2.5%) cases; these children were diagnosed by histology through rectal biopsy. We also found 2 cases of ulcerative colitis, which is having different clinical manifestations and prognosis than non-specific colitis.²⁵

The common causes of lower gastrointestinal bleeding in the preschool period (two to five years) are infections and polyps. A number of pathogens can cause lower gastrointestinal bleeding in preschool children, *Campylobacter*, *Shigella*, *Escherichia coli*, *Salmonella*, *Yersinia*, *Clostridium difficile*, and *Entamoeba histolytica*. *Neisseria gonorrhoea*, *Chlamydia trachomatis*, and *Herpes simplex virus (HSV)* can also occasionally produce bloody stools. Infection should be considered in children presenting with bleeding accompanied by dysenteric symptoms (eg, fever, abdominal pain, tenesmus, small volume bloody stools).²⁶ In Egyptian children, infectious enterocolitis followed by colorectal polyps and chronic colitis are major causes of bleeding per rectum.²⁷ In our study 23(71.875%) children were treated conservatively with suspected infectious colitis and their symptoms relieved successfully on subsequent follow up.

CONCLUSIONS:

Colorectal polyps are common cause of rectal bleeding in children. Proper physical examination including per rectal digital examination along with the endoscopy promotes both rapid and accurate diagnosis and the opportunity for immediate therapeutic polypectomy.

Depending on the source of bleeding (which may be from any part of the gastrointestinal tract), treatment can range from relief of symptoms with antibiotics, blood transfusion, or surgery. Therefore, it is important to locate the source of rectal bleeding so that appropriate treatment can be started and the problem fixed.

REFERENCES:

1. Teach SJ, Fleisher GR. Rectal bleeding in the pediatric emergency department. *Ann Emerg Med* 1994; 23:1252-8.

2. Khurana AK, Saraya A, Jain N, Chandra M, Kulshrestha R. Profile of lower gastrointestinal bleeding in children from a tropical country. *Trop Gastroenterol* 1998; 19:70-1.
3. Dupont C, Badoual J, Le Luyer B, Le Bourgeois C, Barbet JP, Voyer M. Rectosigmoidoscopic findings during isolated rectal bleeding in the neonate. *J Pediatr Gastroenterol Nutr* 1987; 6:25-64.
4. Perisic VN. Colorectal polyps: An important cause of rectal bleeding. *Arch Dis Child* 1987; 62:188-9.
5. Cucchiara S, Guandalini S, Staiano A, Devizia B, Calano G, Romaniello G, Poggi V, Tamburrini O et al. Sigmoidoscopy, colonoscopy, and radiology in the evaluation of children with rectal bleeding. *J Pediatr Gastroenterol Nutr* 1983; 2:667-71.
6. Stevenson R. Gastrointestinal bleeding in children. *Surg. Clin North Am* 1985; 65: 1455-80.
7. Rayhorn N, Thrall C, Silber G. A review of the causes of lower gastrointestinal tract bleeding in children. *Gastroenterol. Nursing*. 2001; 24: 77-83.
8. Vinton NE. Gastrointestinal bleeding in infancy and childhood. *Gastroenterol Clin North Am*. 1994; 23: 93-122.
9. Cynamon HA, Milov DE, Andres JM. Diagnosis and management of colonic polyps in children. *J Pediatr*. 1989; 114: 593-6.
10. Holgersen L, Miller R, Zintel H. Juvenile polyps of the colon. *Surgery* 1971; 69: 288-93.
11. Yachha SK, Khanduri A, Sharma B, Kumar MC. Gastrointestinal bleeding in children. *J Gastroenterol Hepatol*. 1996; 11: 903-7.
12. Euler A, Seibert J. The role of sigmoidoscopy, radiographs and colonoscopy in the diagnostic evaluation of pediatric age patients with suspected juvenile polyps. *J Pediatr Surg* 1981; 16:500-2.
13. You YT, Wang JY, Changchien CR, Chen JS, Tang RP, Fan HA, Lin SE, Lai CR. The clinic diagnostic value of the rigid sigmoidoscopy. *Changgeeng Yi Xue Za Zhi* 1991; 14:22-7.
14. Latt TT, Nichol R, Domizio P, Walker Smith JA, Williams CB. Rectal bleeding and polyps. *Arch Dis Child*.1993; 69:144-7.
15. Poddar U, Thapa BR, Vaiphei K, Sing K. Colonic polyps: Experience of 236 Indian children *Am J Gastroenterol*. 1998; 93:619-22.

16. Raffensperger J, Luck S. Gastrointestinal bleeding in children. *Surg Clin North Am.*1976; 56:413-24.
17. Balkan E, Kiristioglu IL, Gurpinar A, Ozel I, Sinmaz K, Dogeuyoc H. Sigmoidoscopy in minor lower gastrointestinal bleeding. *Arch Dis Child.*1998; 78:267.
18. Mandhan P. Sigmoidoscopy in children with chronic lower gastrointestinal bleeding. *J Pediatr Child Health.*2004; 40: 365-8.
19. Liu TH, Chen MC, Tseng HC, Chou L, Lu C. Malignant change of a juvenile polyp of colon *Chin Med J.* 1978;4:434-9.
20. Mestre JM. The changing pattern of juvenile polyps. *Am J Gastroenterol.* 1986; 81:312-4.
21. Pillai RB, Tolia V. Colonic polyps in children: frequently multiple and recurrent. *Clin Pediatr.* 1998; 37:253-8.
22. Gupta SK, Fitzgerald JF, Croffie JM. Experience with juvenile polyps in North American children: The need for pancoloscopy. *Am J Gastroenterol.* 2001; 96:1695-7.
23. Williams CB, Leage N, Campbell CA, Douglas JR, Walker Smith JA, Booth IW, Harries JT. Total colonoscopy in children. *Arch Dis Child.* 1982; 57:49-53.
24. Jayanthi V, Chuah S, Probert C, Mayberry M, Mayberry JF. Proctitis and Proctosigmoiditis: a need to identify the extent of disease in epidemiological surveys. *Digestion* 1993; 54: 61-4.
25. Earnest D, Sleisenger M. Other diseases of colon and rectum. In: *Gastrointestinal Disease.* Sleisenger M, Fordtran J, eds. Philadelphia: WB Saunders,1975;1536-5.
26. Huicho L, Campos M, Rivera J, Guerrant RL. Fecal screening tests in the approach to acute infectious diarrhea: a scientific overview. *Pediatr Infect Dis J* 1996; 15: 486-94.
27. El-Khayat HA, El-Hodhod MA, Abd El-Basset FZ, Tomoum HY, El-Safory HA, Hamdy AM. Rectal bleeding in Egyptian children. *Ann Trop Pediatr.* 2006: 26: 337-4.