ORIGINAL ARTICLE

Frequency of Various Etiological Factors Causing Lower Gastro-Intestinal Bleeding and Importance of Endoscopy in Children

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ABSTRACT

Aim: To determine frequency of various etiological factors causing lower GI bleeding by endoscopy.
Duration: January 2010 to December 21010.
Methodology: It was a cross sectional survey started in Jan 2010 and completed in one year. Total 160 patients of bleeding per rectum were under gone colonoscopy on basis of inclusion criteria at the Children's Hospital and the Institute of Child Health, Lahore were included.
Results: A total of 160 patients were included in the study. Male to female ratio was 2.9:1. Mean age was found 7.05 years. All patients presented with bleeding per rectum. Most common diagnosed on endoscopy is rectal polyps 74(46.3%), chronic colitis 20(12.5%), infectious colitis 19(11.9%), non-specific colitis 19(11.9%) and normal endoscopies are 27(16.9%).
Conclusion: We concluded that rectal polyps are most common cause of children presented with bleeding per rectum. Colonoscopy is effective for proper diagnosis and farther management of bleeding per rectum.
Keywords: Bleeding per rectum in children, Colonoscopy in children

INTRODUCTION

Lower gastrointestinal bleeding has significance in pediatric group. Lower gastrointestinal bleed occur anywhere along the gastrointestinal tract, and identification of site may be challenging. Bleeding occur below the ligament of trietz i.e., Lower gastrointestinal tract from fourth part of duodenum to the anus.[1] Bleeding from the lower gastrointestinal tract is mostly caused by pathological conditions of colon, although the source of bleeding cannot always be exactly localized[2]. Lower gastrointestinal bleeding presents with rectal bleed, diarrhea, constipation, abdominal pain, distension and abdominal mass[3]. Although not associated with significance mortality, it is associated with morbidity due to chronic blood loss and anemia.

Incidence of lower gastrointestinal bleed is 20% of all children with gastrointestinal bleed. According to one survey, annual incidence of lower gastrointestinal bleeding is 20-27 cases per 100,000 in western countries[4]. Different causes for lower gastrointestinal bleeding include infectious colitis (37.1%), colorectal polyps (21.1%), and chronic colitis (16%) including inflammatory bowel diseases (5.2%), allergic colitis (2.6%), solitary rectal ulcer syndrome (1.5%) and non-specific colitis (6.7%). Intussusceptions and Meckel's diverticulae were the cause in 7.3% and 2.6%, respectively, while other etiologies included vascular (6.2%), systemic (3.6%), (1.5%). In 1.5% of cases, the cause remained obscure[5,6].

Flexible fibro optic endoscopic examination provides a unique diagnostic and at times therapeutic tool. Indications for Lower gastrointestinal endoscopy included rectal bleeding, chronic diarrhea, anemia, suspected bacterial over growth[7,8,9].

Diagnosis of all such patients is done through history, clinical examination and rectal digital examination and barium studies in our set-up. All these tools lack sensitivity and specificity. The situation is much worse in pediatric age group where interventions like lower gastrointestinal endoscopy are not frequently performed due to lack of knowledge about usefulness of these tools among local practitioners and as a result of this, many children remains undiagnosed.

In this study, we planned to determine the frequency of various etiological factors resulting in rectal bleed by using lower gastrointestinal endoscopy. Various etiological factors found on lower gastrointestinal endoscopy may promote the use of this tool by highlighting its importance as diagnosing and moreover in selective cases like rectal polyps and intussusceptions, this modality can be used therapeutic as well.

MATERIAL & METHODS

A total of 160 children of both gender upto 16-years of age presenting with bleeding per rectum and selected for endoscopies were included, these cases were enrolled from emergency and outdoor to

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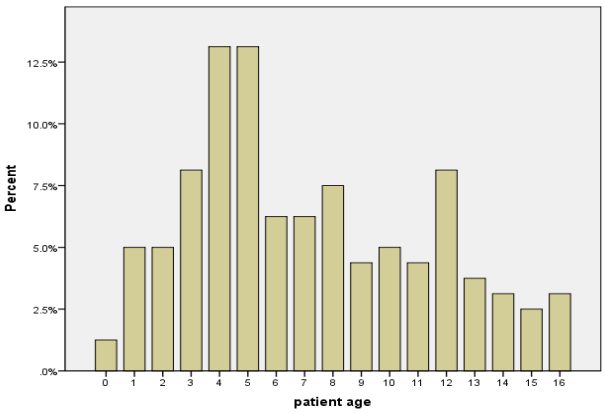
pediatric department; Gastroenterology unit, Children hospital after taking detailed written consent from parents regarding nature of procedure and possible side effects. Patients with decrease platelets (<100) and deranged PT (>5sec), APTT (>10sec) and bleeding time (>15minuts), having fissures and congenital anorectal malformations on physical examination where endoscopy was not possible due to pain or abnormal tract were excluded from the study. All demographic data was recorded including age, gender, endoscopic findings and final diagnosis. Bowel preparation was done before procedure according to hospital protocol. All endoscopies were performed by single consultant gastroenterologist as per unit protocol. Various etiological factors diagnosing on endoscopy including colorectal polyps and intussusceptions were recorded and infectious colitis, chronic colitis, non-specific colitis and inflammatory bowel disease was confirmed on histopathology. Multiple biopsies were done from lower gastrointestinal tract. Histopathology of biopsy samples were done for reaching the final diagnosis.

All the acquired data was entered into SPSS version-19 (As SPSS 12 was not available) programmed and analysis through its statistical package. Variables studied included age, gender and etiological factors. Quantitative variables like age were presented by calculating mean and standard deviation. Qualitative variable like gender and etiological factors like infectious colitis, colorectal polyps, chronic colitis including inflammatory bowel diseases, vascular, non-specific colitis and intussusceptions were presented by calculating frequencies and percentages.

RESULTS

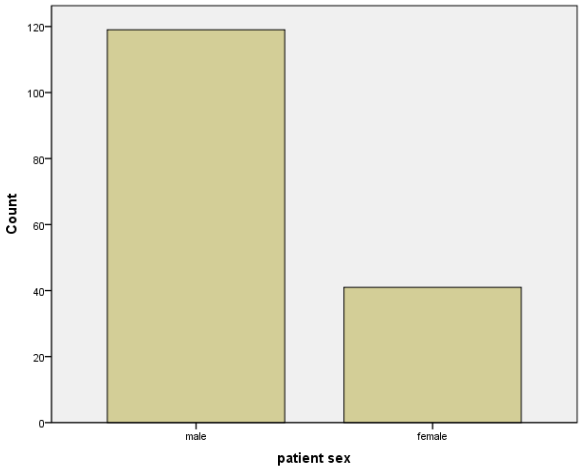
The study included 160 patients of whom 119 (74.4%) were boys and 41 (25.6%) were girls. The mean age at diagnosis was 7.05 years.

Patients age

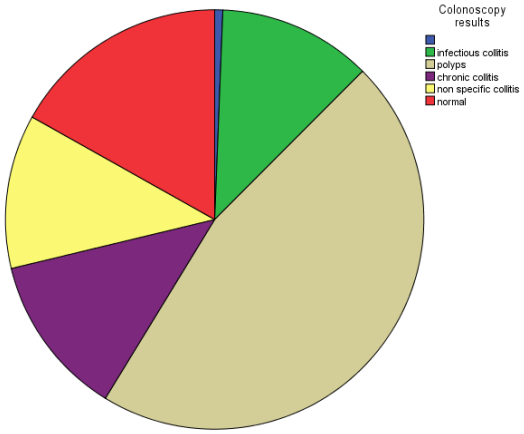


Rectal polyps are the most common cause of bleeding per rectum in children and it was found 74(46.3%). The mean age of presentation was 7 years. All polyps were removed successfully by colonoscopy. Second cause of bleeding was chronic colitis and it was 20(12.5%). Infectious colitis and non-specific colitis were same and appear as same values 19(11.9%). Normal colonoscopies were 27(16.9%) although children presented with bleeding disorders. No case of vascular cause or intussusception was diagnosed.

Patient Sex



Colonoscopy Results



DISCUSSION

A commonly encountered situation of bleeding per rectum in children has mostly common causes and all patients require proper evaluation and proper farther management.

In one largest report, rectal bleeding were 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.[11] In another study, polyps were the most common cause of bleeding of rectal bleeding (56.25%).[10] In India, it was very high (61%)[12] Which reflect very high incidence in this region. The reported prevalence of polyps in children which undergoing colonoscopy for various indications varies from 4% to 17% in western countries.[13,14] Juvenile polyps are usually benign, however adenomatous changes and cases of colorectal polyps arising from juvenile polyps has been reported.[15-16]

Non-specific cause is one of the important cause bleeding per rectum in children. Infection should be considered in children presenting with bleeding per rectum accompanied by dysenteric symptoms.[17]

In Egyptian children, infectious enterocolitis followed by colorectal polyps and chronic colitis are the major causes of bleeding per rectum.[18]

According to our study, the pathological causes of bleeding per rectum in children are 83.1 % of patients if they selected according to our inclusion and exclusion criteria. Our study in contrast to western studies shows that rectal polyps is the most common cause of bleeding per rectum (46.3%) which agrees with the high incidence in this area (the subcontinent). The second most cause found in our study is chronic colitis which is again against the international pattern incidence. Infectious cause which was the top most cause of bleeding per rectum in western studies comes at number 03 position in my study along with nonspecific colitis which is almost twice as more common incidence as a cause of bleeding in this area.

CONCLUSION

The commonest cause of bleeding per rectum in children is colorectal polyps. Proper selection of patients for colonoscopy promotes both rapid and accurate diagnosis and farther management. Depending on the source of bleeding, treatment can range from relief of symptoms with endoscopic removal. Therefore, it is important to establish cause of, perform colonoscopy in properly selected patients to ensure the definite treatment and management.

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