

A Study of Bleeding Per Rectum in Paediatric Age Group

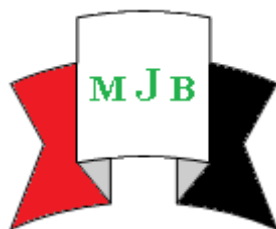
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Abstract

Background: Gastrointestinal bleeding is a frequently encountered clinical complaint in routine medical/surgical practice. It has different aetiology in both extremes of age. There are many reports regarding the aetiology, presentation, epidemiology and management of this complaint in adults. Yet, there is little literature exploring its different aspects in infants and children. This study was carried out in an attempt to find out causes, epidemiology, presentation and the proper management that can be offered to affected infants and children.

Objectives: This study tries to assess the multiple aetiologies and different modalities further management of bleeding per rectum occurring in infants and children in our locality.

Methods : All children below 12 years of age presenting with the complaint of passing blood per rectum were included. The data was reviewed for gender, age, the clinical presentation and the modality of management employed. Complete blood picture and general stool examination were done for all the cases. Flexible sigmoidoscopy was performed for some cases. Also all the rectal polyps and colonic mucosal biopsies taken during sigmoidoscopy were submitted to histopathological examination.

Results : In our study we reviewed 80 patients, of whom 57 (71.25%) were boys and 23 (28.75%) were girls. The male: female ratio was 2.5: 1. The mean age at diagnosis was 6.31 years. The most common aetiology was rectal polyps which was found in 45 (56.25%) of the cases. Rectal polyps were diagnosed by performing per rectum exam and/or sigmoidoscopy. Twenty one (26.25%) of the patients were treated conservatively with the provisional clinical diagnosis of infectious colitis. We revealed non-specific colitis in 2 patients, ulcerative colitis in 2, anal fissure in 2, complicated Meckels diverticulum in 1 and intussusception the remaining 2 cases.

Conclusion : A complete and proper physical exam including per rectum digital exam together with sigmoidoscopy when required helps promotion of both fast and precise diagnosis and offers the opportunity for quick management procedures to be undertaken. The most common cause for bleeding per rectum were rectal polyps.

Keywords: Bleeding per rectum, Rectal bleeding, Per rectal exam, Babylon, Sigmoidoscopy.

دراسة حول النزف الدموي الشرجي عند الأطفال

الخلاصة

خلفية البحث : أن النزف الدموي من الجهاز الهضمي هو من الشكاوى الشائعة في الممارسة الطبية و/ أو الجراحية اليومية. أن أسبابه تختلف في البالغين عنها في الأطفال. هناك الكثير من البحوث و الدراسات التي تناولت أسباب هذه المشكلة و طرق تدبيرها و وبأنيتها عند البالغين في حين لا يوجد إلا القليل نسبيا التي تناولت نفس المشكلة عند الأطفال.

الأهداف : تحاول هذه الدراسة استكشاف اسباب النزف الدموي الشرجي عند الأطفال مع تناول مختلف الطرق التشخيصية و العلاجية المتوفرة.

الطريقة : شملت الدراسة كل الأطفال الذين هم دون سن (١٢) سنة من العمر ممن يعانون من النزف الدموي الشرجي. تم استعراض و دراسة الجنس و العمر و نوع التداخل العلاجي المقدم. لقد تم إجراء فحص صورة الدم الكاملة مع إجراء فحص البراز العامل للحوالات المدروسة كما تم إجراء فحص ناظور الجهاز الهضمي السفلي عند الحاجة لذلك. لقد تم إجراء الفحص النسيجي لكل الزوائد المسقمية و الخزعات المأخوذة من بطانة القولون.

النتائج : تم استعراض و دراسة (٨٠) طفلاً ممن يعانون من النزف الدموي الشرجي وكان فيهم (٥٧) ذكراً و (٢٣) أنثى و كانت نسبة الذكور الى الإناث هي (٢,٥ : ١) و أن متوسط المعدل العمري كان (٦,٣) سنة. وجدنا إن أكثر الاسباب شيوعاً لهذه المشكلة عند الأطفال هو وجود الزوائد المسقمية والتي تم اكتشافها في ٤٥ (٥٦,٢٥ %) من الحالات بإجراء الفحص الشرجي بالاصبع بدون / او مع تنظير اسفل القولون . تم علاج ٢١ حالة (٢٥, ٢٥ %) تحفظاً على اعتبار ان التشخيص الاولي للمرض هو التهاب القولون الانتاني . تم اكتشاف حالتين من التهاب القولون اللانوعي , حالتين من التهاب القولون التقرحي وحالتين من الفطر الشرجي مع حالتين للتداخل المعوي وحالة واحدة لجريب مكلز .

الاستنتاج : ان اجراء الفحص السريري الكامل والشامل والمتضمن اجراء الفحص الشرجي بالاصبع بدون / او مع تنظير اسفل القولون عند الحاجة لذلك هو ضمان للوصول الى التشخيص الصحيح مما يساعد في منح المريض افضل التدابير العلاجية وبسرعة . تبين ان الزوائد المسقمية هو أكثر الاسباب شيوعاً لحدوث النزف الدموي الشرجي عند الاطفال .

مفاتيح الكلمات : النزف الدموي الشرجي عند الاطفال , الفحص الشرجي بالاصبع , تنظير اسفل القولون, محافظة بابل.

Introduction

Bleeding per rectum is a common clinical problem in our mediocl/surgical practice. Most of general practitioners do not have much appreciation regarding the aetiologies and management modalities of bleeding per rectum in paediatric age group. This may explain the mismanagement of this problem. Lower gastrointestinal bleeding in infants and children is commonly encountered in clinical practice, although its epidemiology has not been well evaluated [1-3]. The aetiology of lower gastrointestinal bleeding in children is different from that in adults. The causes are usually simple and need little or no treatment e.g. anal fissure, juvenile polyps but sometimes it may present as more serious and threatening conditions e.g. intussusception, midgut volvulus, Meckels diverticulum and peptic ulcer disease [3-4]. Chronic cases of minor lower gastrointestinal bleeding produces significant anemia. Accordingly, detection and localization of the aetiology is an important part in

the management of these children. A carefully taken history, proper and complete exam of the perianal region, digital per rectum exam and general stool exam can find out the most common causes of this problem [4-6]. More advanced diagnostic techniques e.g. endoscopy, radiology, technetium-labelled red blood cells scans and angiography are used for the diagnosis of more difficult cases.

Patients and Methodology

In this study we reviewed 80 children from January 2012 to July 2013 who were managed in our institutions of Al Hilla Teaching Hospital and Al-Noor Paediatric Hospitals for their complaint of bleeding per rectum. All children who were under 12 years with bleeding per rectum were included to document the clinical characteristics and the management that was performed. In case of rectal polyp, polypectomy was undertaken and polyps were submitted to histopathology. In cases where no polyps were detected using digital per

rectum exam, empirical management provided with the provisional diagnosis of suspected infectious colitis secondary to Gram- negative bacteria and/or Entamoebahistolytica. The treatment regime offered consisted of Metronidazole combined with Nalidixic Acid for a period of 14 days. Results of general stool examination were recorded and assessed. In cases treated on empirical basis and still continue to have persistent bleeding per rectum, sigmoidoscopy was undertaken. All other causes of bleeding per rectum were managed accordingly. Data obtained regarding clinical presentation, demography of bleeding per rectum, sigmoidoscopy findings and histopathological results were studied and analyzed.

Results

This study included 80 cases complaining of bleeding per rectum. Fifty seven (71.25%) were boys while 23(28.75%) were girls. The male: female ratio was 2.5: 1. The mean age at diagnosis was 6 years whereas the mean duration of the complaint was 4.5 months (range; 2day to3years). Nineteen (23%) cases were symptomatic for a year or more . The aetiologies of bleeding per rectum in this study is demonstrated in table (1). The most common aetiology found was rectal polyps in 45(56.25%) cases. Prevalence of rectal polyps was four times (3.88) more common in boys than girls. The mean age of rectal polys presentation was 4 years and the youngest patient was 1.7 years old. Thirty one cases (68.88%) were between 4 and 10 years of age. In 12 (26.66%) cases we documented the presence of anemia as the hemoglobin was less than 10 grams per deciliter. Rectal polys were diagnosed by digital per rectum exam and sigmoidoscopy. Prolapsed polyps through the anus were diagnosed in 14 (31.1%). Solitary

rectal polyps were diagnosed in 44 (97.7%) cases while there was 2 polyps in one case. Uncomplicated surgical polypectomy was performed in all the cases successfully. Biopsies of all the 45 cases of rectal polyps revealed juvenile polyps.

Of the 80 cases, 30(37.5%) cases showed no obvious aetiology for their bleeding and they were assumed to be cases of infectious colitis and managed initially conservatively for 14 days. Twenty two (70%) cases showed good response to treatment offered and complete relieve on subsequent follow up. In the remaining 8(26.66%) cases which continue to have the same complaint, sigmoidoscopy was performed in 5 cases. Sigmoidoscopy revealed a juvenile polyp in 1 case, 2 cases of non-specific colitis, 2 case of ulcerative colitis.

A single case of bleeding Meckels diverticulum was detected and diagnosed on clinical grounds as the there was a profuse rectal bleeding with normal coagulation and bleeding profiles. The patient was submitted to explorative laparotomy that showed a broad base bleeding Meckels diverticulum for which a wedge resection with a primary closure was undertaken. The biopsy exam confirmed the presence of a complicated Meckels diverticulum.

Three cases (3.75%) were due to intussusception which was diagnosed clinically and confirmed by abdominal ultrasonography have been submitted to explorative laparotomy which revealed an ileocolicintussusception in the 3 cases. Manual reduction of the intussusception done without any postoperative complications.

The study detected 2 cases of anal fissure which were offered conservative management successfully.

Discussion

The complaint of bleeding per rectum is common in children and mostly has common causes. It requires proper assessment and sometimes urgent intervention is necessary. In most of the cases the aetiology can be identified by thorough physical exam, simple investigations including general stool exam and sigmoidoscopy. In our study 97.7% of rectal polyps were diagnosed by per rectum digital exam and managed by surgical intervention. In one of the largest studies, bleeding per rectum was the chief complaint in 0.3% of more than 40,000 patients attending to Texas Childrens Emergency Department between July 2009 to June 2010 [1]. Rectal polyps were the most common aetiology (56.25) in this study. The reported prevalence of juvenile rectal polyps in children undergoing endoscopic assessment for different indications ranges from 4% to 17% in Western literature [12-14]. In India it ranked to 61% [15] reflecting the high incidence in this area. Rectal polyps can be a cause of chronic anemia secondary to passive and persistent blood loss in the stool [9-10]. Anemia was discovered in 12 (26.66%) patients with rectal polyps. Digital per rectum exam revealed 44(97.7%) to be due to rectal polyps whereas 1(2.22%) case was diagnosed using flexible sigmoidoscopy. Digital per rectum exam is still an important tool in diagnosis in paediatrics. Other studies reported 60-70% of rectal polyps using digital per rectum exam [18]. Juvenile rectal polyps in children are usually benign, nevertheless, adenocarcinomatous changes and cases of colorectal carcinomas had been reported to arise from juvenile rectal polyps [19,20]. In this study we did not report any single case with dysplastic changes, however, other workers had reported this change in from 0.5% - 11% in their series

[9,11,21,22]. Thus, all juvenile rectal polyps must be excised to avoid the potential risk of future malignancy even if they are asymptomatic. Perfect surgical procedures are important to prevent any possible complications e.g. bleeding and perforation which had been reported in 5-14% in other series [12,20-22]. Non-specific colitis in children is often one of the aetiologies of bleeding per rectum in children. Lesions are usually limited to the rectum but more extension proximally to the sigmoid may be encountered [24]. This study showed 2(2.5%) cases which had been confirmed by submitting rectal biopsies to histopathology. Two cases of ulcerative colitis had been discovered. Ulcerative colitis in children usually presents with a different clinical manifestation and prognosis than non-specific colitis [25]. The most common aetiology of lower gastrointestinal bleeding in the preschool age 2-5 years old are colonic infections and colorectal polyps. Many pathogens can induce infectious colitis with lower gastrointestinal bleeding e.g. Campylobacteria, Shigella, E. Coli, Yersinia, Clostridium difficile, Salmonella, Herpes Simplex virus and Chlamydia trachomatis. Infectious colitis should be suspected in children who present with lower gastrointestinal bleeding accompanied with dysenteric symptoms i.e. fever, abdominal pain, tenesmus and small volume bloody stools. In Egyptian children, infectious enterocolitis complicated by the formation of colorectal polyps and chronic colitis are regarded as major aetiology of bleeding per rectum [26].

Conclusion

This study showed that colorectal polyps are the most common aetiology of bleeding per rectum in children. Thorough physical examination including digital per rectum exam

along with endoscopy when required can help rapid and accurate diagnosis with the benefits of offering the optimal therapeutic intervention at appropriate time. Depending on the source of bleeding the management can consist of administration of antibiotics, blood transfusion and/or surgical intervention to achieve complete cure.

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Table 1 demonstrating aetiology of beeliding per rectum

Aetiology	Number	%
Rectal polyp	45	56.25
Infectious colitis	22	26.25
Non-specific colitis	2	2.5
Ulcerative colitis	2	2.5
Intussusception	3	3.75
Anal fissure	2	2.5
Meckels diverticulum	1	1.25