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KLİNİK ARAŞTIRMA *Pediatri*

A clinical experience on pediatric colorectal polyps

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SUMMARY

Background: *Colorectal polyps are among the common causes for rectal bleeding in children. They rarely have malignant potential. This study aims to present a clinical experience on colorectal polyps with an emphasis on utility of colonoscopy in these children.*

Methods: *File records of patients treated between the years 2001-2011 were retrospectively evaluated in terms of age, sex, diagnostic methods, localization of polyps and pathological results.*

Results: *There were 63 patients with a mean age of 6 years (1-15 years). Among these, 38 (60 %) were males and 25 (40 %) females. The presenting complaint was rectal bleeding in 60, prolapsed polyps in 2 and prolapsed rectum in one. The use of colonoscopy was initiated within the last 9-month of the study period. The polyps were removed by transanal route in 54. Colonoscopy was done with successful removal in all except one for the remaining 9 and yielded polyps in rectum in 4, in sigmoid colon in 3, in transverse colon in one and multiple polyps in one. Histopathology results were available in 62 and consistent with juvenile polyps in 51, hamartamatous in 2, hyperplastic in 2, pseudopolyps in 4, lymphoid in 2 and inflammatory fibroid in one.*

Conclusions: *Although many rectal polyps are palpated and can be removed by anorectal route in children, the incidence of nonpalpable rectal polyps and colonic polyps should not be underestimated. The polyps are benign in most children. Colonoscopic examination increases the diagnostic accuracy and adds to the treatment keeping the possible presence of premalignant conditions in these children. Routine colonoscopic examination should be offered for all children with suspected or proven polyps.*

Key words: *Polyp, colorectal, juvenile, colonoscopy, child*

ÖZET

Çocuk kolorektal poliplerinde klinik deneyim

Amaç: *Kolorektal polipler çocuklarda rektal kanamanın sık görülen nedenlerindendir. Nadiren habis potansiyel taşırlar. Bu çalışmada çocuklarda kolorektal poliplere ait klinik deneyimin sunulması ve bu çerçevede kolonoskopinin etkinliğinin vurgulanması amaçlandı.*

Yöntem: *2001-2011 yılları arasında tedavi edilen hastaların dosya kayıtları geriye dönük olarak yaş, cinsiyet, tanısal yöntemler, poliplerin yerleşimi ve patoloji sonuçları açısından irdelendi.*

Bulgular: *Ortalama yaşı 6 (1-15 yıl) olan 63 hasta vardı. Hastaların 38'i (% 60) erkek ve 25'i (% 40) kızdı. Başvuru yakınması 60 hastada rektal kanama, 2 hastada prolabe polip ve 1 hastada rektum prolapsusu idi. Kolonoskopik inceleme çalışmanın kapsadığı son 9 ayda yapılmaya başlandı. Hastaların 54'ünde polipler transanal yolla çıkartıldı. Kolonoskopi yapılan 9 hastanın. 4'ünde rektumda, 3'ünde sigmoid kolonda, 1'inde transvers kolonda ve 1'inde çoklu yerde polip saptanarak 8'inde kolonoskopik polipektomi yapıldı. Histopatolojik inceleme sonuçları 62 hastada mevcuttu. Buna gore, polipler hastaların 51'inde juvenil, 2'sinde hamartamatöz, 2'sinde hiperplastik, 4'ünde psödopolip, 2'sinde lenfoid ve 1'inde enflamatuvar fibroid tipteydi.*

Sonuç: *Çoğu çocukta rektal polipler muayene ile palpe edilerek anorektal yoldan çıkartılabilirse de palpe edilemeyen rektal polipler ile kolonik poliplerin insidansı da azımsanmamalıdır. Çocuk polipleri çoğunlukla selimdir. Kolonoskopik değerlendirme tanısal kesinliği artırmasının yanı sıra, olası premalign durumlar da göz önüne alınarak, tedavide önemli katkı sağlar. Polip şüphesi veya tanısı bulunan tüm çocuklara rutin kolonoskopik inceleme önerilmelidir.*

Anahtar kelimeler: *Polip, kolorektal, juvenile, kolonoskopi, çocuk*

By definition, a polyp is an elevation on a mucosal surface. Almost all colorectal tumors in children are polyps. Polyps may remain asymptomatic and have an estimated incidence of 1 to 2 % of the childhood population [1]. In symptomatic children, they usually present by painless intermittent rectal

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bleeding which is a common reason for referral to pediatric surgeons. Polyps are more common in the left colon and, hence, most can be removed by the aid of rigid rectosigmoidoscopy [2]. However, in recent years, the importance of routine colonoscopic evaluation has begun to be emphasized in order to detect the more proximally located or multiple polyps. Colorectal polyps are usually of benign nature in children. Yet, potentially malignant adenomatous changes or even cancer can also be detected in minority [3-6].

The present study reports the modes of presentation, location, treatment and histology of colorectal polyps in a group of Turkish children.

MATERIAL and METHODS

File records and operation logs of patients treated for colorectal polyps from March 2001 to March 2011 were retrospectively evaluated in terms of demographic data, modes of presentation, diagnostic methods, localization of polyps and histopathology results. The use of colonoscopy was initiated within the last 9 months of the study period in the relevant pediatric surgical clinic.

RESULTS

There were 63 children who were treated for colorectal polyps within the study period. Among these, 38 (60 %) were boys and 25 (40 %) girls. The age range was between 1 to 15 years with a mean of 6 years (±3 years). The age distribution is given in Table 1. Most children (76 %) were aged between 1 to 8 years.

Table 1. Age distribution of patients.

Age	Number of patients	%
1-4 years	23	36
5-8 years	25	40
9-12 years	14	22
13-16 years	1	2
Total	63	100

The main presenting symptom was painless intermittent rectal bleeding in 60, prolapsed polyps in 2 and prolapsed rectum with polyp in one (Figure. 1). An inspection and a digital rectal examination were performed in all children in the outpatients department. An examination under general anesthesia with rigid proctoscopy was scheduled for those who had suggestive symptoms but no palpable polyps (Group 1). Rigid proctoscopy was replaced with flexible colonoscopy (EC-450LP5, Fujinon, Japan) after June 2010 (Group 2). Radiological contrast enema examination was not done in any. There were no associated syndromic malformations. There were 54 children in Group 1 and 9 children in Group 2. Polyps within the reach of digital examination or rigid proctoscopy were excised after transfixing the stalk with an absorbable suture (Group 1). The most proximally located polyp was at the 10th cm from the anal verge, as recorded in the operation logs. In this group of patients, all underwent removal of a solitary polyp except for one having two rectal polyps. In Group 2 children a total colonoscopic examination was performed under general anesthesia and polyps were excised by using a hot polypectomy snare in all but one. In this latter group of children, the polyp was located in rectum in 4, in sigmoid colon in 3, in transverse colon in one and was multiple (>5) throughout the rectum and colon in one (Figure 2A). Among the rectal polyps, one was located rather proximally being non-palpable by digital examination even under general anesthesia and could only be seen by colonoscopy. Use of

Figure 1. A pedinculated juvenile polyp (arrow) causing rectal prolapsus.

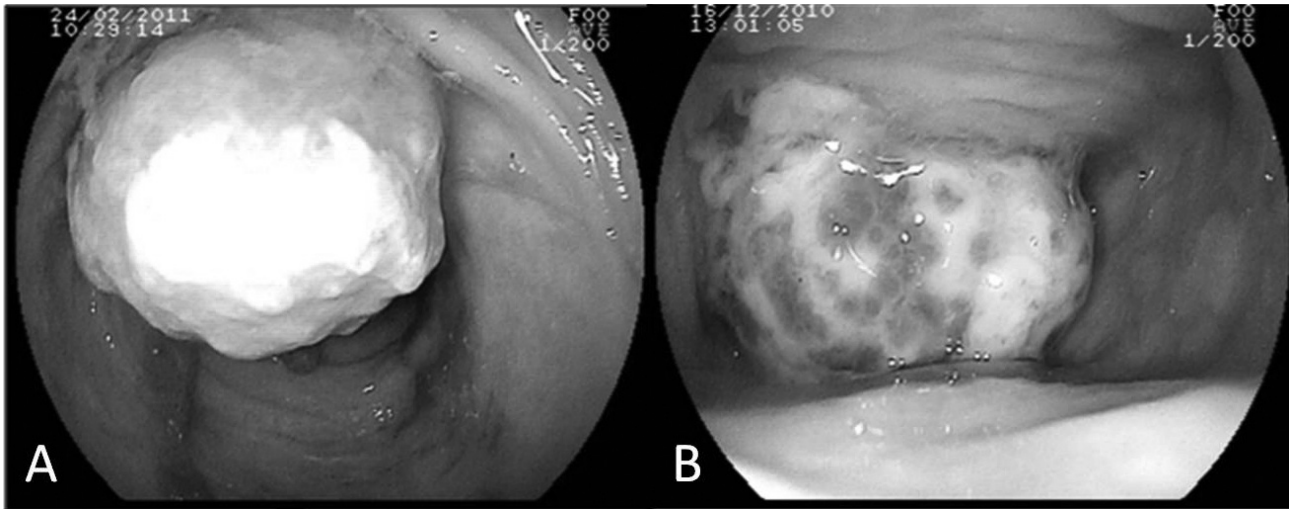

Figure 2. Colonoscopic appearances of a rectal polyp (A) and the transverse colonic ulcerated polyp (B).

colonoscopy enabled detection of polyps that would otherwise be missed by rigid proctoscopy in at least 5 children out of 9. The transverse colonic polyp detected in a 5-year old girl who applied with intermittent abundant rectal bleeding could not be excised colonoscopically due to a broad base with a large polyp diameter (Figure 2B). She underwent an open surgery and removal by colotomy.

Histopathological examination results of polyps from 62 patients were available for analysis (Table 2). The excised polyp diameter ranged from 5 to 30 mm with a mean of 11 mm. Polyps were juvenile in 51 (82 %). The multiple polyps detected in a 10-year-old boy were found to be inflammatory juvenile polyps. He was scheduled for routine surveillance. The inflammatory fibroid polyp was excised from a 5-year-old boy who presented with painless rectal bleeding of 2 months duration. A 10-mm pedinculated polyp was found at the 3rd cm from the dentate line by digital rectal examination and excised.

Table 2. Histopathological examination results.

	Number of patients
Juvenile	51
Pseudopolyp	4
Hamartomatous	2
Hyperplastic	2
Lymphoid	2
Inflammatory fibroid	1
Total	62*

**One of the histopathology results was not available at the time of this retrospective review.*

DISCUSSION

The present study is consistent with the published data in many aspects that most colorectal polyps in children are benign juvenile polyps, they are more common in boys than in girls and usually present with painless rectal bleeding [2,3,7]. Juvenile polyps are more common in the first decade of life as again is the case in the present series. The term "juvenile polyp" does not indicate the age at which the polyp is diagnosed but the histopathological type [8]. They are sometimes referred to as "retention" or "inflammatory" polyps. Classically, juvenile polyps are accepted to be solitary in most cases and these are considered benign. However, some reports that had employed total colonoscopic examination showed a higher incidence (up to 40%) for multiple juvenile polyps in children [4,7]. The number of juvenile polyps does matter clinically because presence of more than three polyps indicates the presence of juvenile polyposis [9]. Juvenile polyposis syndromes harbor the risk of increased malignancy with an indication for entire colonic survey.

Rectal polyps can be palpated by digital rectal examination and can be removed through the anus. For those that cannot be palpated, rigid rectosigmoidoscopy is a traditional and commonly used technique both for investigating and removing polyps [7,10]. However, increasingly routine use of colonoscopy in children with rectal bleeding has enabled the detection of not only multiple polyps but also the proximally located ones which would otherwise go undetected. The prevalence of polyps located above the rectosigmoid colon is higher than previously thought [2]. This has been confirmed by several series [4-6,11]. Current data indicates that approximately 40 % of polyps are located in the rectosigmoid region in children and the rest are evenly distributed throughout the more proximal colon [2]. Therefore, a total colonoscopic examination should be offered if a polyp is detected in a child regardless of the location. The present series is consistent with this assumption, although the patient number who underwent colonoscopic examination is limited.

Colorectal polyps other than juvenile polyps are detected in a relative minority of children. These can be hyperplastic, hamartomatous, lymphoid or even more rarely adenomatous polyps [3-6,11]. These histologic types are considered benign with the exception of adenomatous polyps which are potentially malignant. The histopathological results of the polyps in the presented series were consistent with previous reports except for one unique case which showed "inflammatory fibroid tumor". This is a benign lesion which is most commonly found in stomach. The etiology is unknown. It can be pedinculated or sessile. It is very rare in childhood and was detected in the rectum in only two previous case reports, one in a 66-year old man and the other in a 8-year old boy [12,13]. The case included in the present series is the third one. Because of its benign nature no further intervention is indicated.

In conclusion, bright red intermittent bleeding which is usually seen as streaks of blood is typical for colorectal polyps in children which are benign juvenile polyps in most cases. They can be removed by anal route. Colorectal polyps can be multiple, located in proximal colon and rarely harbor potential malignancy risk in children. Colonoscopy is not only sensitive in detecting colorectal polyp but is also an efficient therapeutic tool. Therefore, it should routinely be employed in those children with proven or suspected polyps regardless of the localization.

Participating investigators: Aytekin Kaymakci, Mevlit Korkmaz and Ahmet Bas cared for study patients and were actively involved in diagnostic and therapeutic interventions.

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