Clinical Characteristics of Colorectal Polyp in Thai Children : A Retrospective Study

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Abstract

Background : It was believed that more than 90 per cent of children with colorectal polyp had a single lesion, located in the rectosigmoid colon, therefore, sigmoidoscopy with polypectomy was the treatment of choice. After a wide use of pediatric colonoscopy, this concept has been changed.

Material and Method : This study was aimed to describe clinical characteristics of colorectal polyp in Thai children. Medical records of children with colorectal polyp were retrospectively reviewed. Comparison between polyposis coli and children with less than 5 polyps were also analyzed.

Results : There were 93 patients, 43 females and 50 males. The average age was 5.1 years. Lower GI bleeding and prolapse of rectal polyp comprised the two most common presentations, 93.5 and 39.8 per cent, respectively. The mean duration of symptoms was 5.6 months. Only 50.6 per cent had rectal polyp noted by digital examination. Investigations included sigmoidoscopy (n = 77), colonoscopy (n = 16), and barium enema (n = 16). Eight per cent of the cases had more than 5 polyps. Location of the polyps was noted in the rectosigmoid colon (88.2%), descending colon (4.3%), right-sided colon (4.3%), and pancolonic (3.2%). Of all the patients, 11.8 per cent had the polyp above the rectosigmoid region, whereas 50 per cent of those who underwent colonoscopy (n = 16) had the polyps noted proximal to this region. Older age, lower hematocrit, and more frequent right-sided polyps were significantly associated with polyposis coli ($p < 0.05$). Only 2 patients with polyposis coli were treated by colectomy. Histopathology included juvenile polyp (95%), inflammatory pseudopolyp (2.5%), and hyperplastic polyp (2.5%).

Conclusion : Most of the children with colorectal polyp had juvenile polyp that is commonly found in the rectosigmoid colon. However, a significant number of patients had carrying polyps proximal to the rectosigmoid region, which would be easily missed by sigmoidoscopy. With the concern

of malignancy change particularly in children with polyposis coli, routine colonoscopy should be considered as an initial investigation in children with colorectal polyp.

Key word : Colorectal Polyp, Child, Lower Gastrointestinal Hemorrhage, Colonoscopy

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Gastrointestinal (GI) polyp is a common cause of lower GI hemorrhage in preschool children (1,2). Besides bleeding per rectum, clinical presentations include abdominal pain, prolapse of rectal polyp, and intestinal obstruction. Most were juvenile polyp which had been believed to have a single lesion and considered as benign(3). After pediatric colonoscopy has been widely employed as part of the investigation for a child with lower GI bleeding, 40-58 per cent of the children with juvenile polyp contains multiple lesions(2-5). Moreover, 12 per cent of the cases had familial polyposis syndrome, predisposing to malignancy changes(6). Therefore, sigmoidoscopy with polypectomy alone might not be a sufficient treatment for children with colorectal polyp. This article is purposed to describe the clinical characteristics of Thai children with colorectal polyp at Chiang Mai University Hospital.

MATERIAL AND METHOD

A retrospective descriptive analytic study was conducted at Chiang Mai University Hospital. The medical records of children admitted to the pediatric and pediatric surgery ward from November 1995 to August 2002 were reviewed to identify children with the diagnosis of colorectal polyp. Demographic, clinical, and laboratory information were retrieved in a standardized form. Data collection included age, sex, clinical presentations, digital examination, hematocrit, and the results of investigations (sigmoidoscopy, colonoscopy, and barium enema). The number, location, and pathology of the polyps were also studied. The patient was diagnosed as polyposis coli if there were more than 5 polyps in the colon. Qualitative and quantitative data were compared using Fisher Exact and Mann-Whitney U test, respectively. A p-value of < 0.05 was considered as statistically significant. This study was approved by the Research Ethics Committee of the Faculty of Medicine, Chiang Mai University.

RESULTS

One hundred and twenty three children were diagnosed with colorectal polyp, but 30 of them were excluded due to incomplete medical records. Only 93 children were enrolled for data analysis. The most common age of onset was 2-5 years old (50.5%) with the mean age of 5.05 years old (95% CI 4.48-5.62). A histogram demonstrating the distribution of age of onset is shown in Fig. 1. Male to female ratio was 1.2 : 1. The duration of the symptoms was less than 3 months in 59.6 per cent, whereas in three-quarters of the cases had a duration of symptoms less than 6 months (mean duration of symptoms 5.6 months, 95% CI 3.9-7.2 months). Sixty-six per cent of the patients had one clinical presentation, in which painless lower GI bleeding was the most common. The remaining patients had two clinical presentations (Table 1). Four patients (4.3%) had a family history of colorectal polyp.

Rectal polyps were diagnosed by digital examination in only 50.6 per cent of 89 patients noted.

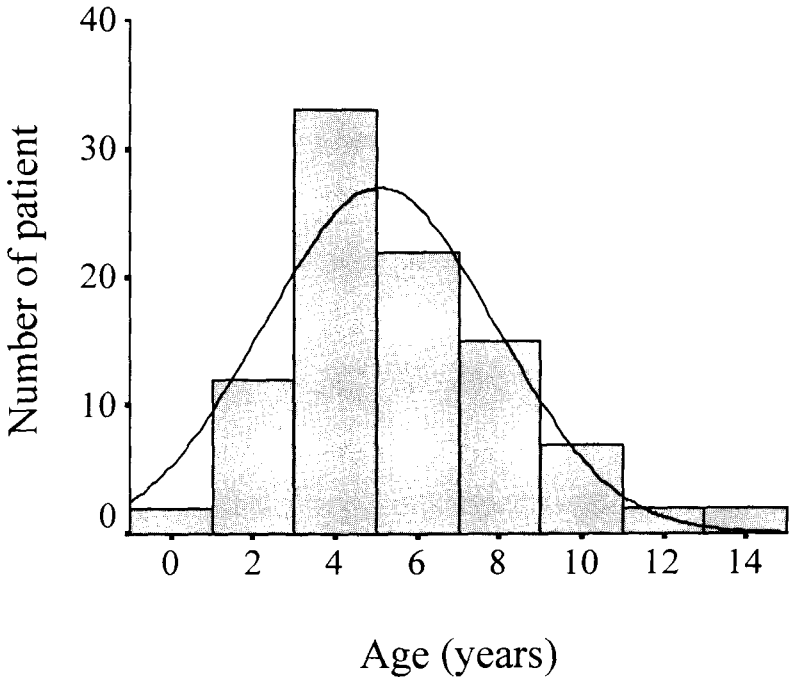

Fig. 1. The histogram shows the age distribution of children with colorectal polyp.

Only 37 children had records of hematocrit level. The mean hematocrit was 36.3 per cent (95% CI 34-38.6). Among 93 children, sigmoidoscopy, colonoscopy, and barium enema were performed in 77, 16, and 16 sessions, respectively. Ninety-two per cent of the patients had fewer than 5 polyps, whereas 8 per cent was diagnosed as polyposis coli. The rectosigmoid colon was the most common location. However, 11.8 per cent of all cases had the polyps proximal to the sigmoid colon (Table 2). Because colonoscopy has been recently used as a diagnostic tool for children suspected to have colorectal polyps at our institute, as many as 50 per cent of the patients who underwent colonoscopy had polyps proximal to the sigmoid colon.

Regarding histopathologic study, juvenile polyps accounted for 95 per cent followed by inflammatory pseudopolyps and hyperplastic polyps in 2.5 per cent each. Polypectomy was the treatment in all patients; except two patients who were diagnosed as polyposis coli and treated by colectomy. Follow-up data was obtained in 84 patients. Seven of them (8.3%) had a recurrent symptoms of lower GI bleeding. The mean duration of recurrent symptom was 16.9 months.

Comparison of clinical characteristics between the children having fewer than 5 polyps and more than 5 polyps (polyposis coli) is shown in Table 3. The polyposis coli patients were significantly older; had lower hematocrit level; and more frequent right-sided polyps, defined proximal to the splenic flexure ($p < 0.05$). The family history of colorectal polyp in polyposis coli patients was higher than those having fewer than 5 polyps. (16.6% *vs* 3.8%). However, it did not reach statistical significance ($p = 0.258$).

DISCUSSION

This study delineated the clinical characteristics of Thai children with colorectal polyps. The age of onset and sex distribution were similar among studies[5,7-13]. In the present study, lower GI bleeding comprised the most common clinical manifestation (93.5%). However, the present study reported a considerable number of patients with a history of prolapse of the rectal polyp (39.8%) compared with

Table 1. Clinical manifestations of children with colorectal polyp.

Clinical manifestations	Number of cases	%
Lower GI hemorrhage	55	59.1
Prolapse of rectal polyp	6	6.5
Lower GI hemorrhage and prolapse of rectal polyp	31	33.3
Lower GI hemorrhage and abdominal pain	1	1.1

Table 2. Location of colorectal polyp in the children.

Location	Number of cases	%
Rectosigmoid	82	88.2
Descending colon	4	4.3
Right-sided polyp (proximal to the splenic flexure)	4	4.3
Pancolonic	3	3.2

Table 3 Comparison between polyposis coli and children with fewer than 5 polyps.

Clinical parameters	Children with less than 5 polyps (n = 81)	Polyposis coli (n=7)	P-value
Age (years) (mean, SD)	4.95 (2.53)	8.29 (3.09)	0.004
Male (%)	55.6	42.8	0.697
Family history (case)	3 (n = 79)	1 (n = 6)	0.258
Onset of symptoms (months) (mean, SD)	5.5 (7.8)	9.6 (8.5)	0.076
Prolapse of rectal polyps (%)	43.2	14.3	0.233
Hematocrit (%) (mean, SD)	37.44 (6.77)	31.13 (6.49)	0.015
Polyp at right-sided colon (%)	1.26 (n = 79)	85.7 (n = 6)	0.001

16 per cent in other series[1]. Digital examination revealed only 50.6 per cent of cases. This might have resulted from the location of the polyps, difficulty, and inadequate examination, particularly in young children. Therefore, endoscopy should be performed in all children suspected of having colorectal polyps.

Most of the patients had the polyps in the rectosigmoid colon (88.2%). Only 11.8 per cent of all cases contained the polyps proximal to this point. However, with the advent of pediatric colonoscopy, there has been an increasing number of reports of a significant number of cases who had the polyp beyond the rectosigmoid region (45%)[2,14]. The finding is consistent with this study if only the subgroup of the patients who underwent colonoscopy was analyzed, in which 50 per cent of them had the polyps proximal to the rectosigmoid colon. Therefore, Erdman SH et al suggested that colonoscopy is the best investigation and treatment for children with colorectal polyp[2]. Due to the limited number of cases undergoing colonoscopy in the present study and some having this procedure performed after multiple polyps noted during sigmoidoscopy and barium enema, therefore, the conclusion that colonoscopy should be the treatment of choice for Thai children with colorectal polyp cannot be clearly made. A prospective study, that is designed to investigate all children with colorectal polyp by colonoscopy, is needed to make such a recommendation.

Polyposis coli is a diagnosis in a patient who has more than 5 polyps and/or a family history of polyposis coli. This study reported 7.9 per cent of cases with polyposis coli, comparable to the others (2.5-10%)[5,7-13]. Location at the right-sided colon, older age, and lower hematocrit level were significantly associated with polyposis coli patients. The finding was consistent with a report from Hoffenberg EJ et al[6]. Although the percentage of family history of colorectal polyp in polyposis coli patients was higher (16.6% *vs* 3.8%), it did not reach statistical significance. This resulted from the limited number of patients in the polyposis coli group, thus, a larger population is required.

Similar to other studies, the most common pathology was juvenile polyp (95%). Surprisingly, the present study did not find adenomatous polyp compared to that of Caucasian children[5,7,10]. This finding might result from different genetic backgrounds. Although the rate of malignancy change is lower in juvenile polyposis coli compared to adenomatous poly-

posis coli, screening for colorectal neoplasia by colonoscopy every 3 years is advised[15]. If the polyps grow very rapidly and there is evidence of dysplastic changes on histopathology, prophylactic colectomy should be considered, particularly in adolescents.

SUMMARY

Most children with colorectal polyp had juvenile polyp that was commonly found in the rectosigmoid colon. However, a significant number of patients had polyps proximal to the rectosigmoid region, which would be easily missed by sigmoidoscopy. With the concern of malignancy change particularly in children with polyposis coli, routine colonoscopy should be considered as an initial investigation in children with colorectal polyp. A prospective study is required to analyze the risk and benefit of this procedure before definitely making this conclusion.

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การศึกษาลักษณะทางคลินิกโรคติ่งเนื้อในลำไส้ใหญ่ของผู้ป่วยเด็กไทย

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ความเป็นมา : โรคติ่งเนื้อในลำไส้ใหญ่ในเด็กเดิมเชื่อว่ามากกว่าร้อยละ 90 มีเพียงติ่งเนื้อเดียวและอยู่ที่บริเวณ rectosigmoid แต่เมื่อมีการทำการส่องกล้องลำไส้ใหญ่เพิ่มมากขึ้นทำให้พบว่าข้อมูลดังกล่าวเปลี่ยนแปลงไป

วัสดุและวิธีการ : การศึกษานี้เป็นการศึกษาแบบย้อนหลังโดยเก็บข้อมูลจากเวชระเบียนของผู้ป่วยเด็กที่ได้รับการวินิจฉัยว่าเป็นโรคติ่งเนื้อในลำไส้ใหญ่

ผลการศึกษา : ผู้ป่วยทั้งหมดมี 93 รายเป็นหญิง 43 ราย ชาย 50 ราย อายุเฉลี่ย 5.1 ปี อาการที่พบได้บ่อยคือเลือดออกในทางเดินอาหารส่วนล่างพบร้อยละ 93.5 และมีติ่งเนื้อยื่นออกมาจากรูทวารร้อยละ 39.8 ระยะเวลาก่อนมาพบแพทย์ 5.6 เดือน มีเพียงร้อยละ 50.6 ที่มีการตรวจพบติ่งเนื้อจากการทำ digital examination การศึกษาครั้งนี้มีการทำ sigmoidoscopy 77 ราย colonoscopy 16 ราย และ barium enema 16 ราย ร้อยละ 8 ของผู้ป่วยมีติ่งเนื้อมากกว่า 5 อัน ตำแหน่งที่ตรวจพบติ่งเนื้อคือ rectosigmoid ร้อยละ 88.2 descending colon ร้อยละ 4.3 right-sided colon ร้อยละ 4.3 และ pancolonic ร้อยละ 3.2 พบว่าร้อยละ 11.8 ของผู้ป่วยทั้งหมดมีติ่งเนื้ออยู่สูงกว่า rectosigmoid เมื่อนำผู้ป่วยที่ทำ colonoscopy มาวิเคราะห์พบว่า ร้อยละ 50 มีติ่งเนื้ออยู่สูงกว่าตำแหน่ง rectosigmoid ในผู้ป่วยที่เป็น polyposis coli พบว่าจะมีอายุมากกว่า ซีดกว่า และพบติ่งเนื้อในตำแหน่งลำไส้ใหญ่ด้านขวาได้บ่อยกว่า ผู้ป่วยที่มีติ่งเนื้อน้อยกว่า 5 อัน ($p < 0.05$) มีผู้ป่วยเพียง 2 รายที่ได้รับการรักษาโดยการผ่าตัด ผลการตรวจทางพยาธิวิทยาพบว่าร้อยละ 95 เป็น juvenile polyp ที่เหลือเป็น inflammatory pseudopolyp และ hyperplastic polyp อย่างละ 2.5%

สรุป : ติ่งเนื้อในลำไส้ใหญ่ในเด็กไทยส่วนใหญ่เป็น juvenile polyp มีจำนวนไม่น้อยที่พบติ่งเนื้ออยู่สูงกว่าตำแหน่ง rectosigmoid ดังนั้นการพิจารณาทำ colonoscopy จึงมีความจำเป็นโดยเฉพาะเมื่ออุบัติการในการเกิด malignancy สูงขึ้นใน polyposis coli อย่างไรก็ตามยังต้องการการศึกษาต่อไปเพื่อกำหนดแนวทางการรักษา

คำสำคัญ : ติ่งเนื้อในลำไส้ใหญ่, เด็ก, ถ่ายเป็นเลือด, การส่องกล้องลำไส้ใหญ่

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