Colonic Carcinoma : A Case Report in a Child and Review Literature

NUTHAPONG UKARAPOL, M.D.*,
LUMDUAN WONGSAWASDI, M.D.*,
JESDA SINGHAVEJSAKUL, M.D.**

Abstract

This article reports one case of child colonic carcinoma. This is a rare disease in children which usually occurs in predisposing conditions, e.g. ulcerative colitis, familial polyposis coli, Gardner's syndrome, Turcot's syndrome and Peutz-Jegher's syndrome. The patient in this report was 12 years old. He presented with chronic intermittent colicky abdominal pain and uncorrectable iron deficiency anemia for 7 months prior to definite diagnosis. This report also reviews the literature about colorectal carcinoma in children. Physicians can make an early diagnosis with a high index of suspicion if they cannot explain clearly what causes abdominal pain. Further investigations should be performed, thereby, avoiding delayed diagnosis and improving survival rate.

Key word : Colonic Carcinoma, Children, Abdominal Pain, Anemia

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CASE REPORT

A twelve-year-old boy had chronic vaguely intermittent colicky abdominal pain for 7 months. This symptom occurred at the epigastric and periumbilical regions. He was admitted to the local hospital several times due to the symptoms and was treated for peptic ulcer without improvement. There was no complaint of bowel habit change or vomiting. On the first visit at our hospital, he had pallor and investigations were done; the results were . hemoglobin 10.4 g/dl, hematocrit 33 per cent, white blood cell count 8400 cells/cumm, neutrophil 42 per cent, eosinophil 13 per cent, basophil 6 per cent, lymphocyte 34 per cent, monocyte 5 per cent, serum iron 19 mcgm/dl and TIBC 320 mcgm/dl. He was given with iron supplement but, on the day of follow-up, he still looked pale and he also complained about feeling a mobile abdominal mass. He still had abdominal pain despite meticulous symp-

* Department of Pediatrics, Faculty of Medicine, Chiang Mai University,
** Department of Surgery, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand.

tomatic treatment. He lost 1 kg in weight during the illness. There was no family history of colorectal cancer noted. On physical examination, he looked well but had mild pallor. His weight and height were 17 kg and 115 cm respectively. No lymph node was palpated at the supra-clavicular region. Abdominal examination revealed fullness of the right upper quadrant with an ill-defined firm 5x8 cm mass on palpation. There was mild tenderness on the mass. He was eventually admitted to the hospital for complete investigation. Hemoglobin was 9.9 g/dl and hematocrit was 33.5 per cent on the day of admission. Stool occult blood was positive. Serum CEA level prior to operation was 2.49 ng/ml. Abdominal ultrasound revealed bowel wall thickening at the right upper quadrant. The liver, spleen and kidneys were normal. There was no intra-abdominal lymphadenopathy. Barium enema demonstrated short segment of annular constricting lesion with overhanging margin at the distal ascending colon. (Fig. 1) Colonoscopy showed an intraluminal mass with irregular surface and necrotic tissue at the ascending colon and the endoscope could not pass through the lesion. Mutiple biopsies were performed. The histopathologic study revealed the invasive growth of a poorly differentiated adenocarcinoma with signet ring cell appearance and massive extracellular mucin production. The patient was operated. The surgical findings were a mass at the hepatic flexure of the colon with extraserosal invasion, mesenteric and peritoneal seeding marked at the cul-de-sac. The mass was 12 cm in diameter. The liver had a smooth surface and no nodules. Right half colectomy was done. Further chemotherapy was given with 5-FU.

Fig. 1. Barium enema demonstrates the short segment of annular constricting lesion with overhanging margin at the distal ascending colon.

DISCUSSION

Carcinoma of the colon can occur at any age. In children, it is a rare disease compared to other malignancies, such as leukemias and brain tumors. Despite focusing merely on tumors of the alimentary tract, colorectal carcinoma is relatively uncommon (10%) compared with Non-Hodgkin lymphoma[1]. In the Third National Cancer Survey, the incidence of colonic carcinoma was 6.8 per million children between the age of 10 and 19 years[2]. This group of patients usually reaches the advanced stage at the time of diagnosis on account of the delayed diagnosis caused by the unawareness of this condition in children. Fifty-five to 90 per cent of them are classified into Dukes' stage C and D[3-5]. There is evidence demonstrating that males have a slightly higher incidence of colorectal carcinoma than females in which the ratio is 1.3 - 2 :1[4,6-7]. Ulcerative colitis, familial polyposis coli, Gardner's syndrome, Turcot's syndrome and Peutz-Jegher's syndrome are the predisposing conditions that may increase the risk of colorectal carcinoma. In this report, however, no risk factor was identified. Clinical presentations in children do not differ considerably from adults except that there is less change in the bowel habit[8]. Abdominal pain is the most common manifestation occurring in 62-95 per cent of patients[3-5,7]. Besides abdominal pain, the patients can present with vomiting (40%), bowel habit change (33.3%), weight loss (20%), blood in stool (18.3%), abdominal distension (13.3%), anorexia (10%), abdominal mass (5%), paleness (5%) and may sometimes clinically mimic acute appendicitis[7,9]. The patient in this study, similar to others reported elsewhere, had the initial symptom of chronic intermittent abdominal pain and iron deficiency anemia. If sites of cancer are considered, the bloody stool is more common in left-sided cancer than the right-sided one[8]. In about half of the patients, the

tumor arises in the left-sided colon compared with 20-33 per cent and 18-25 per cent in the right-sided colon and the transverse colon respectively[3,5,8]. The period of symptoms prior to definite diagnosis ranges from 7 days to 12 months and the median period is 3 months[4]. The investigations that help in establishing the diagnosis include serum CEA level, abdominal ultrasound for the abdominal mass and unexplained abdominal pain, barium enema and colonoscopy. Regarding CEA level, it is within the normal limit (less than 2.5 ng/ml) in 20 per cent of the preoperative patients and also mildly elevated (2.5-5 ng/ml) in a further 20 per cent of cases[4]. Reported by Angel et al, the sensitivity and specificity of CEA were 77 per cent and 64 per cent respectively with the use of the adult normal standards (CEA less than 3.0 ng/ml)[12]. Therefore, the serum CEA level does not help much in establishing the diagnosis. Nevertheless, it can be used in adjunct to the clinical assessment for determining the recurrence of the disease. The histopathology of colonic carcinoma in children is different from that of adults. Mucinous poorly differentiated adenocarcinoma is composed of approximately 85 per cent of child colonic carcinoma in which it is more common in children than adults[3,4]. In only 2.5 per cent of the cases on record did the children survive 5 years after the operation[6]. According to the delayed diagnosis that is caused by the unawareness of this condition in children and poor histopathologic nature, the final outcome of pediatric colonic cancer is still unsatisfactory[10]. Surgery is the mainstay of the therapy of colorectal carcinoma. Multiple chemotherapy is still controversial. There is a report of transient response to chemotherapy with vincristine, methyl-CCNU and 5-fluorouracil in 60 per cent of the patients in which the median survival time was 13 months; compared to 8 months in the patients who failed to respond to this regimen initially[4]. This report also used radiation therapy for preoperative treatment because of initial unresectable tumors. There is another report with a favorable response to 5-FU/leucovorin in pediatric colorectal carcinoma[11].

SUMMARY

Although colorectal carcinoma is an unusual cancer in children, physicians should be conscious of this condition, particularly when one cannot explain clearly what causes abdominal pain and what causes uncorrectable iron deficiency anemia. Further investigations should be performed, thereby, avoiding delayed diagnosis and improving the survival rate.

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รายงานผู้ป่วย มะเร็งลำไส้ใหญ่ในเด็ก

*ณัฐพงษ์ อัครผล, พ.บ.**
ลำดวน วงศ์สวัสดิ์, พ.บ. เจษฎา สิงห์เวชสกุล, พ.บ.***

โรคมะเร็งในลำไส้ใหญ่ในเด็กถือว่าเป็นภาวะที่พบน้อย และมักมีความสัมพันธ์กับโรคที่ผู้ป่วยเป็นอยู่ก่อน เช่น Ulcerative colitis, familial polyposis coli, Gardner's syndrome, Turcot's syndrome และ Peutz-Jegher's syndrome รายงานนี้ รายงานผู้ป่วยเด็ก 1 ราย อายุ 12 ปี ที่มาด้วยปัญหาปวดท้องแบบบีบๆ และภาวะซีดจากการขาดธาตุเหล็กที่ไม่ตอบสนองต่อการรักษามาเป็นระยะเวลา 7 เดือน ก่อนที่จะได้รับการวินิจฉัยอย่างถูกต้อง ดังนั้นแพทย์ผู้ดูแลจึงควรนึกถึงภาวะนี้ โดยเฉพาะอย่างยิ่งถ้าไม่สามารถอธิบายสาเหตุของอาการปวดท้องที่เป็นมานาน ๆ ได้ ทั้งนี้เพื่อให้ได้การวินิจฉัยและการรักษาที่รวดเร็วและถูกต้อง อันจะนำไปสู่ผลการรักษาที่ดีขึ้น รายงานนี้ยังได้ทบทวนวรรณกรรมที่เกี่ยวกับโรคมะเร็งในลำไส้ใหญ่ในเด็กไว้ด้วย

คำสำคัญ : มะเร็งลำไส้ใหญ่, เด็ก, อาการปวดท้อง, โลหิตจาง

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* หน่วยระบบทางเดินอาหาร, ภาควิชากุมารเวชศาสตร์,
** หน่วยศัลยกรรมกุมารเวชศาสตร์, ภาควิชาศัลยศาสตร์, คณะแพทยศาสตร์ มหาวิทยาลัยเชียงใหม่, จ.เชียงใหม่ 50200