Exsanguinating Uncontrollable Lower Gastrointestinal Hemorrhage Due to Juvenile Polyposis: Report of a Case*

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When juvenile polyps are identified histologically, therapy is usually conservative. No significant malignant potential occurs and, in the usual course of the disease, autoamputation causes trivial bleeding and morbidity. Recently, however, juvenile polyposis occurring in a kindred has been reported as a possible genetic marker of a predisposition to cancer of the gastrointestinal tract.10 Still, surgical therapy of juvenile polyposis becomes conservative when compared with the more aggressive therapy of familial polyposis. Usually the bleeding associated with autoamputation does not necessitate surgical treatment. This report concerns a 14-year-old girl who underwent total colectomy, abdominoperineal resection and ileostomy for massive exsanguinating hemorrhage due to juvenile polyposis.

Report of a Case

A 14-year-old white girl was seen in her surgeon's office with complaints of diarrhea and bloody stools with mucus of two years' duration. Rectal examination revealed numerous polyps. The patient's mother had had a colonic polyp, which had been removed, but her sibling and father were healthy and gave no history of polyps. Physical examination revealed that the patient was well-developed and well-nourished, in no acute distress, with no abnormal physical findings.

On admission, leukocyte count was 6,900, hemoglobin 12.7 g/100 ml, hematocrit 37 per cent, blood glucose 125 mg/100 ml, BUN 10 mg/100 ml, creatinine 0.7 mg/100 ml, calcium 8.2 mg/100 ml, SGOT 13 U/ml, LDH 223 IU/l, alkaline phosphatase 5.0 U/100 ml, consistent with the patient's age. Urine was normal and blood volume revealed an erythrocyte volume deficit of 250 ml.

The patient was given a transfusion of 250 ml of packed cells and underwent barium enema examination, which revealed numerous polyps of the rectum and cecum, and isolated polyps scattered throughout the colon. The polyps ranged from several millimeters to 1 cm in diameter, and some had definite pedicles. Reflux revealed a normal terminal ileum. No evidence of ulcerative colitis or diverticulitis was found (Figs. 1 and 2).

The patient underwent sigmoidoscopy to 25 cm, which confirmed the presence of numerous polyps. A biopsy was taken at 10 cm. Later pathology reports returned showing juvenile rectal polyps with foci of adenomatosis hyperplasia. Within three hours the patient passed many bright red stools and went into clinical shock, with blood pressure falling from 90/60 to 70/40 to 0/0 mm Hg. The patient underwent emergency sigmoidoscopy and cauterezation of a bleeding point at 10 cm with silver nitrate sticks, but bleeding continued. The rectum was packed and the patient was taken to the operating room. Her anal area was dilated under general anesthesia and several bleeding areas were suture-ligated but, in suctioning blood, additional polyps were sucked out and many bleeding points could not be controlled. Following a conference with the parents, abdominoperineal resection, total colectomy, and ileostomy were performed. During the operation the patient received six units of whole blood, two units of packed cells, and three liters intravenous fluids. Frozen section of some of the polyps revealed juvenile polyposis.

Postoperatively the patient was transferred to the surgical intensive care unit and from there to the surgical ward. Eight days postoperatively, with all incisions well healed, she was discharged.

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Pathologic examination of the resected specimen revealed normal mesenteric lymph nodes, a portion of terminal ileum with attached total colectomy and anus showing juvenile polyposis involving mainly the rectum and sigmoid colon, essentially sparing the transverse colon, with involvement of the cecum and ascending colon (Figs. 3 and 4). The pathology report (Figs. 5 and 6), described the typical histologic picture of juvenile polyposis.

Discussion

In the past, confusion regarding the histopathologic details of juvenile polyps has led to confusion about their malignant potential, surgical therapy and follow up. Lack of precision of histopathologic detail makes comparisons among different series very difficult, and can lead to the wrong therapy.3, 11

Presently, the histologic details of juvenile polyps are fairly well standardized: No neoplastic elements are seen; the mucosa consists of columnar cells with microvilli, connective-tissue elements, polymorphonuclear leukocytes, lymphocytes, plasma cells, mast cells, capillaries, lymphatics, neurofibers, etc.12 In contrast to polypoid lesions found in adults, juvenile polyps are simple and orderly in structure, with a single stalk and smooth external surface lacking filiform projections and multilobular structures. Usually there are old and recent hemorrhages into the connective tissue, dilated lymph channels, and inflammatory cell infiltrates where the preponderant cell was the eosinophil.4

In the present case, biopsied polyps conformed to the typical histologic picture of juvenile polyps.

In reviewing 158 cases of juvenile polyposis, Roth and Helwig6 found that the