RECTAL PROCIDENTIA—A RARE COMPLICATION OF ULCERATIVE COLITIS

Report of Two Cases in Children

LEORA A. TRAYNOR, M.D.,*

AND

WILLIAM M. MICHENER, M.D., M.S. (Pediat.)

Department of Pediatrics

IN common usage the term 'prolapse of rectum' may refer either to prolapse or to procidentia of the rectum. Prolapse by definition is the abnormal descent of *only* rectal mucous membrane with protrusion through the anus. The mucosal furrows radiate from the center of the anal aperture. Procidentia refers to the abnormal descent of *all* layers of the rectum or sigmoid with protrusion, usually two or more inches beyond the anus. Folds of mucosa are concentrically arranged.

The occurrence of rectal procidentia as a complication of chronic ulcerative colitis in childhood is evidently rare. It has been mentioned as a complication of chronic ulcerative colitis by Edwards and Truelove,[1] who found it to occur in eight patients in their series of 624, but chiefly in the age range of 25 to 40 years. Rectal prolapse but not rectal procidentia in ulcerative colitis was noted by Davidson[2] in 1964. In the last 12 years, 125 children with the diagnosis of ulcerative colitis have been seen at the Cleveland Clinic, in only two of whom rectal procidentia was observed as a complication of the disease.

Report of Cases

Case 1. A 5¾-year-old boy was admitted to the Cleveland Clinic Hospital on July 10, 1965, because of bleeding from the rectum after each bowel movement for the last seven months. He had from one to four loose, foul-smelling movements daily, and particles of undigested food and mucus were visible in the feces. In the week before admission to the hospital, painful swelling and bruising of the feet developed, and the child refused to walk. His medical history disclosed that since the age of one year the boy had loose stools with intermittent bleeding; one severe episode required that he be hospitalized and receive two blood transfusions.

When examined the child was found to be a pale, poorly nourished boy who was crying because of pain in the lower extremities. His height was 43 inches (in the 25th to 50th percentile for his age) and he weighed 40 pounds (in the 25th percentile for his age). Remarkable aspects of the examination were the extreme pallor, tachycardia (148 beats per minute), a systolic heart murmur, and a protuberant but not tender abdomen. There was 2+ pitting edema of the ankles, with several ecchymoses.

Results of laboratory studies were: blood hemoglobin, 6.8 gm. per 100 ml.; leukocyte

* *Fellow, Department of Pediatrics.*

count, 14,000 per cubic milliliter, with no abnormal cells; prothrombin time, 14 seconds (13 seconds for the control); platelet count, 540,000 per cubic millimeter; reticulocyte count, 1.4 per 100 ml.; total serum proteins, 6.2 gm. per 100 ml., with 2.41 gm. of albumin; serum iron, 20 μg. per 100 ml.; urinalysis, normal; sweat chloride, 36 mEq. per liter. Feces were liquid or mucoid with gross blood. Results of several examinations for ova and parasites were negative. Cultures of feces were negative for pathogens. On proctoscopic examination the mucosa was boggy, granular, and friable. The rectal biopsy showed mild chronic colitis with a solitary crypt abscess. Roentgenograms after barium enema showed absence of haustra, with small mucosal serrations indicative of ulcerative colitis. The upper gastrointestinal tract was normal according to a roentgenogram and small-bowel study.

After initial studies the patient was given blood transfusions with a total of three units of packed cells. He continued each day to have three or four diarrheal stools with gross blood. On the eighth day in the hospital he had rectal procidentia, and it was learned that this had occurred several times previously, the first time when the patient was three years old. During this hospitalization the procidentia recurred twice, but was easily reduced manually. The patient was discharged from the hospital with a diagnosis of ulcerative colitis and was to follow a regimen that included injections of adrenocorticotropin (ACTH), enemas with methylprednisolone acetate, and oral administration of antispasmodics, sulfa drugs, iron, and vitamins. It is eight months since he was discharged from the hospital; the stools are now normal and the blood hemoglobin is maintained at 12 gm. per 100 ml. without iron supplement.

Case 2. A 7½-year-old boy was admitted to the Cleveland Clinic Hospital on July 5, 1959, because of procidentia of the rectum which first occurred two weeks before admission. The patient had normal stools until the age of 6½ years when he began to have a single bowel movement of mucus-coated feces each day. The rectal procidentia recurred at the time of each defecation, usually reducing itself spontaneously. The boy was well nourished and in no apparent distress. There was no evident rectal procidentia at the time of initial examination, and the results of a digital rectal examination were normal. At proctoscopy several mucosal polyps and pseudopolyps were seen and fulgurated. There were deep, healed, linear ulcerations covered with foul-smelling mucopurulent material. The rectal biopsy specimen revealed chronic inflammatory infiltrate of the lamina propria with focal necrosis of the crypts. Results of laboratory studies were: blood hemoglobin, 13.7 gm. per 100 ml.; hematocrit value, 39 percent; leukocyte count, 8,700 per cubic milliliter, with a normal differential count. Fecal specimens were liquid with much mucopurulent material, consistently guaiac positive. Repeated examinations for ova and parasites were negative; cultures of feces were negative for pathogens. After treatment with a low-residue diet, neomycin-hydrocortisone rectal suppositories, antispasmodics, psyllium hydrophilic mucilloid, and vitamins, the child's condition was improved and he was discharged from the hospital.

His progress was followed for six months. Occasional episodes of procidentia continued to recur. He was next examined at the Cleveland Clinic six years later, on March 22, 1965, when 13 years old. He had discontinued the therapeutic regimen and began to have from three to five bowel movements daily of semiformed feces coated with gross blood and mucus; defecation was preceded by crampy abdominal pain. On physical examination he appeared to be healthy, the only abnormalities noted being hyperactive bowel sounds and tenderness along the course of the colon. A roentgenogram after barium enema was interpreted as normal. Proctoscopic examination revealed a granular appearance for two inches, with normal-appearing mucosa above that segment. The previous therapeutic regimen was prescribed; the number of bowel movements decreased; the abdominal pain disappeared; and the patient gained weight. A progress proctoscopic examination three months later showed the mucosa to be somewhat edematous, but without ulceration or friability.

COMMENT

Cystic fibrosis is considered to be the most common cause of prolapse of the rectum in infancy and childhood.[3] In a series of 386 children with cystic fibrosis, studied by Kulczycki and Shwachman,[4] rectal prolapse occurred

in 22.6 percent and most frequently between the ages of six months and three years, rarely after the age of five years. Prolapse in those children was reduced spontaneously or manually and, as steatorrhea was controlled, the incidence of recurrences decreased. Similarly, when rectal procidentia or prolapse occurs in patients who have ulcerative colitis, it is associated with acute exacerbations of diarrhea.

The pathogenesis of prolapse and of procidentia of the rectum is poorly understood. Postulated causes are diverse: emaciation with loss of pararectal fat, weakness of the pelvic floor, abnormal motility of the rectum, congenital mesorectum, the normal absence of the sacral curve in infancy, constipation, diarrhea, poor posture at defecation, and any factors tending to increase intraabdominal pressure such as chronic cough or straining at voiding. That prolapse may occur without anatomic defects or organic disease is attested to by information[5] concerning an eastern European sect who as a religious fetish acquire rectal prolapse by straining with the rectum empty.

For the majority of children, conservative treatment is sufficient, and spontaneous or manual reduction is easily accomplished. A number of surgical procedures have been devised as treatment, but postoperative recurrence is common.

Conclusion

Though it would seem logical that rectal procidentia should appear as a frequent complication of chronic ulcerative colitis in childhood, it is rare. It has occurred in only two instances in a group of 125 children with ulcerative colitis treated at the Cleveland Clinic, and has received only passing mention in the reported experience of others.

References

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