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Advanced grades of bleeding hemorrhoids in a young boy

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Abstract. – **We report a case of advanced grades of bleeding hemorrhoids in a 10-yrs-old boy, who had a history of bleeding per rectum since he was 5 year of age. The diagnosis was made on anoscopic examination after ruling out other colorectal pathologies by a full-length colonoscopy. There was no evidence of portal hypertension.**

He was successfully treated with radiofrequency ablation and plication of hemorrhoids using a Ellman radiofrequency generator.

Though rare to be found at the age of ten years without any obvious etiology, hemorrhoids should be considered as one of the causes of bleeding per rectum in children.

Key Words:

Hemorrhoids, Bleeding per rectum, Child, Radiofrequency.

Case Report

A 10-year-old boy reported for treatment with complaint of painless bleeding during defecation. The complaint dated back to the time when he was only five year old. It became profuse since last 3 months with episodes of bleeding in jet or spray while straining at stool.

The parents observed protrusion of a mass from the anus during defecation, which being reduced voluntarily after 5 minutes of the act.

There was no complaint of abdominal pain or pain in the anal region. There was no history of melena or hematemesis. There was no history of constipation.

On clinical examination, the child looked anemic, but comfortable. Abdominal examination was normal. Digital anal examination revealed anal spasm, but no mass could be felt. Anoscopy showed prolapsing pile masses from all 3 common positions of hemorrhoids, more from the right anterior position. No other pathology was noticed. Diagnosis was reconfirmed by examining the boy during and immediately after defecation to exclude any rectal prolapse.

Hematological investigations reported as follows. Hemoglobin: 6.1 g/dl; PCV: 22.5 ml/dl; MCV: 59.1 μm^3; MCH: 16 pg; MCHC: 27 g/l.

The abdominal ultrasound reported normal and the liver function tests showed no alteration. A full- length colonoscopy was negative for any colonic lesion. The child was examined immediately after defecation, and with the obvious presence of large hemorrhoids, the final conclusion was that it was a case of grade 3 hemorrhoids (Figure 1).

Radiofrequency ablation and plication of hemorrhoids was done using a Ellman radiofrequency device (Ellman International Inc, Oceanside, NY, USA) after obtaining a piece of tissue from the prolapsing mass for biopsy (Figure 2).

The patient was discharged on the evening of the procedure. Daily doses of 15 ml of lactulose at bedtime for one month and 325 mg of Paracetamol twice a day was prescribed for a period of 10 days.

Results

The patient was reviewed after 2 weeks. He reported to have post defecation bleeding for first 3 days after the procedure, which smeared the stool. There was complaint of post defecation pain lasting for 15 minutes, which continued for about 10 days postoperatively.

The histopathological examination of the tissue showed surface ulceration while the stroma showed chronic inflammatory cells, dilated blood vessels and few organized thrombus pointing towards a diagnosis of hemorrhoids.

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Figure 1. Grade III hemorrhoids at all 3 principal positions.

A second follow-up was made at the end of 4 weeks of the procedure. Digital anal examination was painless. Anoscopy showed complete regression of hemorrhoids.

At the last follow-up after 12 months, the boy had gained weight by 2 kg. His hemoglobin level had risen from the earlier 6.1 g/dl to 10.2 g/dl.

Discussion

Hemorrhoids in children are not common[1-3]. There is almost no evidence of presence of hemorrhoids in children who were examined for sex abuse[4] or even in the postmortem perianal findings[5].

The most common cause of hemorrhoids in the young children is portal hypertension[6-8]. Rarely, hemorrhoids may be found in association with colorectal malignancies[9], rectal mucosal prolapse[10] and as pseudo-haemorrhoidal vascular swellings[11].

The accepted mechanism of development of hemorrhoidal disease focus on mechanical theory, where the anchoring and supporting connective tissue system deteriorates with age. The hemorrhoids not only bulge, but also descend into the lumen. This becomes observable in the third decade of life, with individual differences. The veins become distended as they loose their support. The descended loose lining becomes more sensitive to pressure from straining and to trauma from the stool. Laxity of the supportive tissue enables distention of the hemorrhoidal sinusoids with a tendency to bleed during straining mainly during defecation[12].

If this theory is to be accepted, then a question arises as why this boy should get symptomatic hemorrhoids at a tender age of ten year. There was no family history of such disease and no history of constipation in the patient[13]. While a high calorie low roughage diet could be another factor that could be responsible for initiating this pathology, this child was reportedly consuming enough cereals and fibers in his diet.

Figure 2. Radiofrequency ablation of hemorrhoids.

Table I. Common causes of lower gastrointestinal bleeding in children.

Age group	Causes
Neonates	Anal fissure (commonest) 40-70% Necrotizing enterocolitis Malrotation with volvulus
Infants aged 1 month to 1 year	Anal fissure (commonest) 60-77% Intussusception 10-35% Gangrenous bowel Milk protein allergy
Infants aged 1-2 years	Polyps (commonest) 60-70% Meckel diverticulum 22%
Children older than 2 years	Polyps (commonest) 65-77% Inflammatory bowel disease 4-20% – Crohn disease – Ulcerative colitis – Indeterminate colitis – Infectious diarrhea Vascular lesions – Hemangiomas, – Arteriovenous malformations – Vasculitis Peutz-Jeghers syndrome Familial adenomatous polyposis (FAP)

The only possible explanation of this case could be a congenital structural weakness of the hemorrhoidal venous walls causing hemorrhoids or pseudo-haemorrhoidal vascular swellings.

While the most common cause of rectal bleeding in this age group is due mainly to anal fissure[14,15] juvenile rectal polyp[16], infective pathologies like colitis[17,18], bleeding disorders, gastro-intestinal allergy, colorectal hemangiomas or Meckel's diverticulum[19], in the case under study, neither the history nor the examination did reveal any such lesion (Table I). The less common causes of bleeding are infective enteric pathologies like intestinal tuberculosis, enteric fever, lymphonodular hyperplasia and solitary rectal ulcer (Table II).

Table II. Rare causes of lower gastro-intestinal tract bleeding in children.

- Hemorrhoids
- Lymphonodular hyperplasia
- Hemolytic uremic syndrome
- Henoch-Schönlein purpura
- CMV in HIV infected child
- Solitary rectal ulcer
- Enteric fever
- Intestinal tuberculosis
- Amebic ulcers

Ordinarily, hemorrhoids in children can be treated with sclerotherapy or banding[6], but we preferred the procedure of ablation and plication[20-21], which is our usual procedure for advanced grades of hemorrhoids[22]. The hemorrhoids of this boy could be categorized into grade 3 due to their tendency to prolapse that needed quite a long time to reduce and retract. These types of hemorrhoids are difficult to manage with banding or sclerotherapy[23].

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