Lower Gastrointestinal Vascular Malformation in Children

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Introduction

Vascular anomalies of the colon in adults have been recognized as an important cause of lower gastrointestinal (LGI) bleeding. Vascular malformations of colon in children have been reported in literature [1]. The usual clinical evaluation of LGI bleed in children often fails to detect vascular malformations of the colon. A delay in diagnosis is thus common. The methods commonly employed for evaluation of patients with LGI bleed include Technetium scan, LGI endoscopy, arteriography and barium contrast studies [1].

Several methods, including coagulation and embolization, have been used to treat vascular lesions, nevertheless surgical resection offers the most suitable therapeutic modality [2]. The more commonly affected segments are the left colon and the rectum rendering surgical therapy a challenge [1]. Vascular malformations in children may also present with intussusception, intestinal obstruction and intestinal perforation.

Case Report

A 12 year old patient reported with a history of bleeding per rectum since early childhood. The boy had been passing bright red blood with stools with every act of defecation. The child had undergone evaluation at various center's without any relief. He had received multiple blood transfusions. There was no history of loose motions, pain at defecation or passage of mucus along with the stools. There was no history suggestive of intestinal obstruction. The patient passed 10-15 ml of blood with stools at each episode. At presentation, the child was pale and abdomen examination was normal. On rectal examination, no hemorrhoids were visible. Hemoglobin was 4 gm % and coagulation profile was within normal limits. Scan for Meckel's diverticulum was negative. Pooling of blood in the pelvic area was seen on blood pool scan. Barium enema study was normal and lower GI endoscopic evaluation failed to pick up any lesion except for a few prominent veins

in the recto-sigmoid. At exploratory laparotomy, the finding included a large vein with a diameter of 1.5 cm entering the sacral hollow in the retro-rectal region. The recto-sigmoid was thick suggesting a vascular malformation. A sigmoid colostomy was fashioned on the patient and the large vessels entering the vascular malformation were divided between ligatures. Three months later the patient was re-evaluated with endoscopic evaluation of the lower segment. The vascular lesion in the recto-sigmoid was partially fibrosed (Fig.1). Resection of the lesion and anastomosis was done. Three months later continuity of the colon was restored. There was no recurrence of bleeding at nine months of follow up. The histology confirmed a diagnosis of vascular malformation.

Discussion

Cutaneous vascular lesions in children are frequently encountered in clinical practice. These are commonly diagnosed at birth or early in life and have an incidence of 1 in 3 live births [1]. The frequency of vascular lesions affecting the colon is unknown. The colonic vascular malformations are detected only when the child presents

Fig. 1 : Resected specimen showing vascular malformation

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with LGI bleed [3]. The clinical workup is followed up with angiography, blood pool scan, magnetic resonance imaging, doppler studies and endo-sonography. In our patient the initial LGI endoscopy could not pick up the vascular malformation. The diagnosis is obtained in 70% cases on full colonoscopy [4]. The arteriography and the blood scan led us to a possible lesion in the rectum. This was confirmed at laparotomy.

One of the common lesions causing lower GI bleeding in children is Meckel's diverticulum. The relatively low negative predictive value of the Meckel's scan suggests that exploratory laparotomy or laparoscopy may be indicated instead of scintigraphic scanning in the assessment of the anemic (hemoglobin less than 11g/dL) pediatric patient with lower GI bleeding, especially in those with a high suspicion of Meckel's diverticulum bleed [5]. Computed tomography is useful in diagnosis of acute lower gastrointestinal bleeding where endoscopy fails to localize the lesion and bleeding has stopped temporarily [3]. In obscure GI bleed where the lesion cannot be localized the capsule endoscopy has a high diagnostic yield [6].

Several non-operative methods such as steroid therapy, interferon therapy and sclerotherapy have been recommended for vascular malformations of colon. However in cases of vascular malformation with severe bleeding, surgical resection is recommended [5]. Upto 83% of vascular malformations causing LGI bleed are found in the rectum and sigmoid. In most cases, the procedure to excise the vascular malformation poses a severe risk of intra-operative bleeding and damage to

the pelvic structures [2]. In patients having diffuse lesions, involving the pelvis and mesentery, end colostomy and Hartmann's procedure is an option. The proctectomy is done as second stage procedure. The posterior sagittal approach to excise the rectum is preferred.

Superselective microcoil embolization is another safe and effective treatment for LGI hemorrhage with vascular malformations where the feeding vessels are accurately outlined [7].

Conflicts of Interest

None identified

References

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Events Calendar

28th - 29th Jun 2008

Emerging Challenges in Para med care competence and Coping skills in a HIV/AIDS setting (02 days event) for Paramedicals

Venue : Command Hospital (Southern Command) Pune.

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30th-31st August 2008

5th SR Naik Memorial Workshop on 'Computers and Informatics in Medicine

Venue:Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow.

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