

A 12-Years Rectal Bleeding Complicated with Deep Vein Thrombosis, Is Hemorrhoid the Real Cause?

Yi-Qun Zhang, Meng Niu and Chun-Xiao Chen*

Department of Gastroenterology, First Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, P. R. China

Abstract

Colorectal venous malformation is a rare condition that can cause massive rectal bleeding. This is the first report of colorectal venous malformation complicated with massive bleeding and lowers limb deep vein thrombosis, and the two life-threatening conditions were both treated successfully.

Keywords: Colorectal venous malformation • Rectal bleeding • Sclerotherapy • Deep vein thrombosis

Introduction

A 16-year-old man presented to the clinic with long-standing recurrent hematochezia and profound anemia. Per the mother, his rectal bleeding was first noticed around the age of 4 with one episode per 2-3 months that was diagnosed as hemorrhoids without specific treatment. It had worsened for 2 months with progression to 1 bloody bowel movement daily. He had no family history of hematologic disorders or vascular anomalies. The patient had accepted 600 ml red-blood cell perfusion and intravenous sucrose-iron transfusions for severe anemia with hemoglobin 5.8 g/dL, hematocrit 25.9% and MCV 69.7 fL at local hospital.

Case Report

Upon admission, the patient's vital signs were within normal limits. His abdomen was supple and without tenderness. Digital rectal examination confirmed partially thrombosed, circumferential mixed hemorrhoids. Laboratory tests revealed a hemoglobin 8.0 g/L and D-dimer 15760 µg/L. The patient had no symptoms but ultrasonography of peripheral vessel showed deep vein thrombosis of right calf muscle vein and right peroneal vein while no venous malformation was observed in those two veins and there drainage veins. Complete upper endoscopy and colonoscopy were performed. No bleeding, vascular lesions or other vascular abnormalities were identified on esophagogastroduodenoscopy. Colonoscopy identified erythematous to purple and serpiginous vessels throughout the descending and sigmoid colon and rectum sparing the colon proximal to the splenic flexure (Figure 1). A diffuse, contiguous slow-flow colorectal VM involving the sigmoid colon, rectum, anus and gluteal muscle was then confirmed on contrast-enhanced Magnetic Resonance Imaging (MRI) (Figure 2).

The patient was treated with low molecular heparin for 2 weeks after the bleeding stopped by conservative treatment. The follow-up ultrasound showed a recover of the deep vein thrombosis. The patient then received a percutaneous sclerotherapy and no complication occurred. There was no rebleeding during the one-year follow-up. The differential diagnoses of colorectal vascular lesion include venous malformation (VM), arteriovenous malformations (AVM) and cavernous hemangioma. Venous malformation and cavernous hemangioma

*Address for Correspondence: Chen CX, Department of Gastroenterology, First Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, P. R. China, E-mail: 543991245@qq.com

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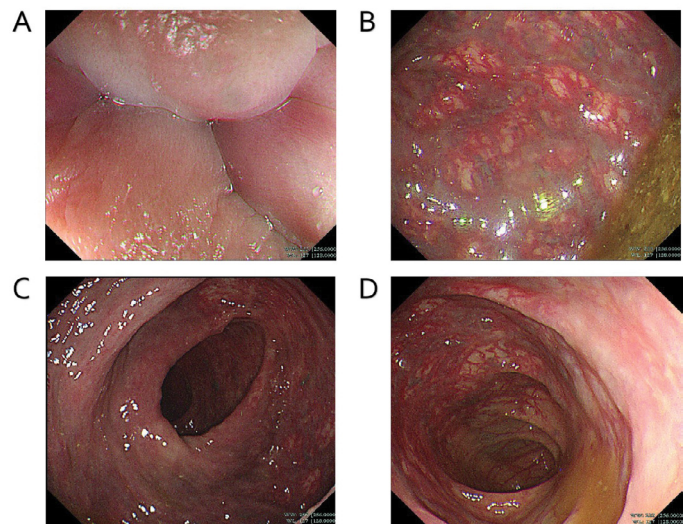


Figure 1. Endoscopic images. (A). Venous malformation mimicking hemorrhoid. (B, C, D): VM in rectum, sigmoid colon and descending colon, respectively. The image of descending colon (D) shows the edge of the lesion.

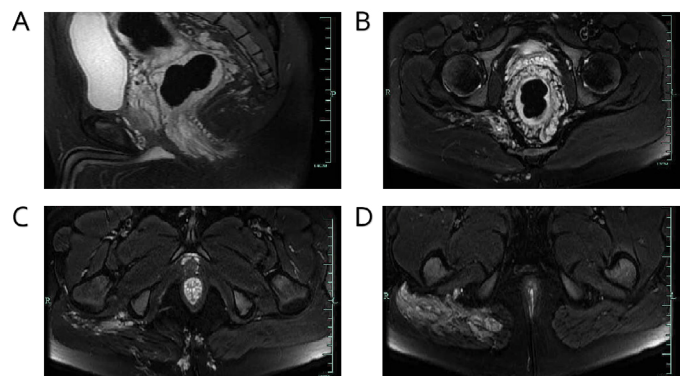


Figure 2. Fat-suppressed T-2 series MRI depicting hypervascularity and a slow-flow venous malformation (VM) in the pelvis, distal colon, anal sphincter and gluteal muscle. VM in rectosigmoid wall (A, B), anal sphincter muscle (C) and right gluteal muscle (D).

are slow-flow vascular lesions, while AVM is a fast-flow pulsatile lesion which often shows numerous flow voids on MRI. Hemangiomas are vascular tumors and usually not present at birth; they proliferate during the first year of life; then they involute.

Colorectal venous malformation was an uncommon congenital condition with a high incidence of rectal bleeding. Richard Brill [1] reported 5% of the patients with a lower limb venous malformation had colorectal venous malformation while anal sphincter was spared in all of those cases.

As pointed out by Dr. Fernandez-Pineda, colonic venous malformations are often mistaken for tumors because of a similar presentation and improper nomenclature. But unlike hemangiomas, venous malformations consist of dysplastic vessels and are present on a lifelong basis without a proliferation phase or regression phase [2]. Overall, the patient's presentation and clinical/radiologic findings are best diagnosed as venous malformation

Discussion

Elevated D-dimer level is highly specific for venous malformations, more importantly; it is also a screening test for deep vein thrombosis and pulmonary embolism. The presence of venous thrombosis and pulmonary embolism in dilated veins is common [3]. In this case, the 16-year-old teenager with normal daily activity developed no obvious symptoms of thrombosis but was found to have two Deep Vein Thrombosis (DVT) in his lower limb. The genetic risk factors were not tested because there is no certain genetic polymorphism confirmed to be related with DVT in Chinese population as Factor V Leiden mutation in Caucasian. This may indicate an increase of thrombophilic risk in otherwise normal patients with massive venous malformation. Therefore, we recommend an ultrasonography of deep veins for all such patients. The treatment with low molecular heparin can potentially worsen the rectal bleeding; however, it could be used with regular coagulation study when the rectal bleeding has stopped.

Conclusion

To our knowledge this is the first case of venous malformation affecting

descending colon, sigmoid colon, rectum, anal sphincter and lower limb. The dilated anal vessels presented as mixed hemorrhoids may mislead the diagnosis. However, hemorrhoids could be part of the venous malformation seen in this case because the MRI confirmed a continuity of anal and rectal lesion. Colorectal vascular malformations are rare but can cause significant continuous gastrointestinal bleeding and chronic anemia, even affect growth. An endoscopy for young patients with recurrent hemorrhoids of unknown etiology may be warranted for screening vascular malformations.

Author Contributions

YZ: Made substantial contributions to the study's conception and design, and acquisition, analysis, and interpretation of data. YZ, MN and CC: Were involved in drafting or revising the manuscript critically for important intellectual content and performed the final revision of the manuscript.

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