

Clinical Image

Gastrointestinal Bleeding due to Arteriovenous Malformation of the Intestine

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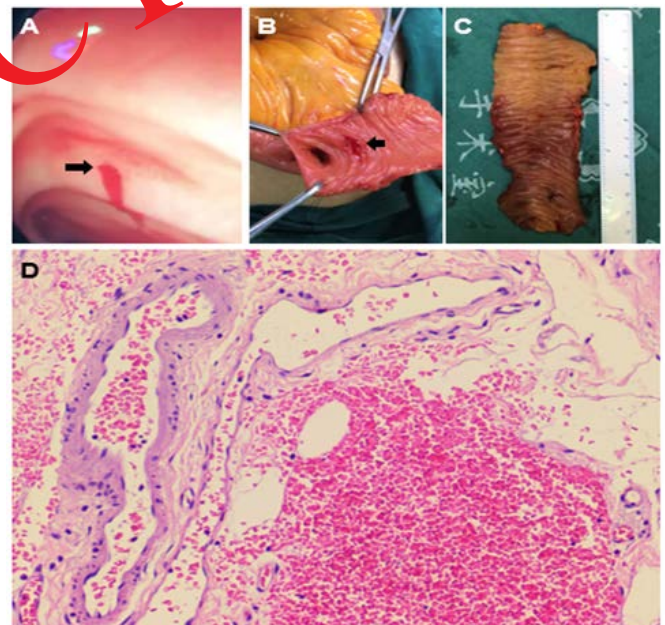
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INTRODUCTION

A 75-year-old woman presented with a 6-month history of bloody stool. She had no documented medical history and showed no signs of gastrointestinal disease. Laboratory tests and abdominal computed tomography were unremarkable. Double-balloon enteroscopy was performed after an initial negative esophagogastroduodenoscopy and colonoscopy. A double-balloon enteroscopy view showed oozing of blood from a miniscule point source on the jejunum mucosa (Figure A). Endoscopic treatment was ineffective because bleeding remained unchanged. Therefore, an exploratory laparotomy was performed which detected the localization of bleeding point from the mucosa marked by double-balloon enteroscopy (Figure B). The patient then underwent jejunal local excision and the bleeding point was completely removed (Figure C). Histologic examination of the bleeding jejunum mucosa confirmed irregularly expanded arteries and veins which were aggregated in the submucosal layer with a missing intervening capillary network (Figure D). There was no evidence of abnormal proliferation of the vascular endothelial cells. And based on these findings, the patient received a diagnosis of arteriovenous malformation. Finally, the patient recovered postoperatively. Arteriovenous malformation arises during embryogenesis which is relevant to hormones and hereditary susceptibility.¹ Arteriovenous malformation rarely affects the gastrointestinal tract, but the small intestine and right hemicolon are the most common sites for gastrointestinal arteriovenous malformation.^{2,3} Most patients with suspected arteriovenous malformation present with sudden onset of middle intestinal or chronic recurrent bleeding. Infrequent symptoms of arteriovenous malformation include both anemia and tenesmus. It may be challenging to differentiate arteriovenous malformation from hemangioma with a high rate of misdiagnosis.^{4,5} Vascular anomalies are divided into hemangioma and vascular malformation according to histopathology and hydrodynamics. The presence of abnormal proliferation of vascular endothelial cells is the specific characteristic of arteriovenous malformation. Surgical resection remains the mainstay of arteriovenous malformation treatment because of ineffective pharmacologic options for treating arteriovenous malformation and a high recurrence rate of arterial embolization. Here we present a rare case of a terminal jejunal arteriovenous

malformation in an aged woman whose first manifestation was active bleeding. Our report also highlights that this etiology should be considered when oozing of blood from a miniscule point source on the jejunum mucosa is visualized without mucosal lesions although arteriovenous malformation may be difficult to confirm without histopathology.

Figure 1: Gastrointestinal bleeding due to arteriovenous malformation of the intestine. (A) Double-balloon enteroscopy view showing oozing of blood from a miniscule point source on the jejunum mucosa; (B) An exploratory laparotomy detecting the localization of bleeding point from the mucosa; (C) Jejunal local excision was performed and the bleeding point was completely removed; (D) Histologic examination of the bleeding jejunum mucosa confirmed irregularly expanded arteries and veins.



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CONFLICTS OF INTEREST

None.

ETHICAL STATEMENT

The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. Written informed consent was obtained from the patient for publication of this “*Images in Clinical Medicine*”.

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