

Case Report

Gut Arterio-Venous Malformation: A Stealth Bleeder in Colon

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Abstract

Vascular ectasias which include Arteriovenous malformations (AVMs) and angiodysplasias account for approximately 3% of lower gastrointestinal bleed. Selective mesenteric angiography although still considered to be definitive in the diagnosis of an intestinal AVM it is being gradually replaced by CT angiography. We herein present a rare case of intestinal AVM presenting with lower gastro intestinal bleed diagnosed by Contrast CT with CT angiography.

INTRODUCTION

AVM of the gastrointestinal (GI) tract is the single most common cause of significant GI bleeding when conventional diagnostic studies have failed to reveal a bleeding focus. This entity is has always been an enigma for both the surgeons as well as the physicians. Its rarity in the past was probably due to the need of invasive angiography for its diagnosis. However advances in CT imaging allowing dynamic images to be obtained in the arterial and venous phases has greatly improved the resolution of CT imaging vis-à-vis intestinal AVM. We report a 66 year old female presenting as massive lower GI bleeding from a colonic AVM involving a segment of the right colon.

CASE PRESENTATION

A 66-year-old female was referred to our hospital with the complaints of occasional abdominal pain and fresh blood in stools. On admission hemoglobin level was 9.7g/dL. Clinical examination revealed sinus tachycardia (110 beats/min) without other abnormalities particularly no naevi, no cutaneous or mucosal telangiectasias and no leg asymmetry. There was no history of gastrointestinal or hepatic disease. Ultrasonography of hepatobiliary system was unremarkable. No evidence of portal hypertension was seen. Upper GI endoscopy and colonoscopy were unremarkable for any discrete abnormality. Contrast enhanced computed tomography (CECT) of abdomen and pelvis was performed along with CT angiography. Arterial phase imaging revealed an enhancing area within the wall of ascending colon. This otherwise stealth lesion showed an adjacent early draining vein gushing into superior mesenteric vein (Figures 1,2). The arterial supply of the lesion was seen arising from a branch of right colic artery. A diagnosis of colonic AVM was made in view of no other explanation of the patients bleeding source and decreasing hemoglobin levels. A splenic artery aneurysm was also seen incidentally (Figure 3).

A decision to intervene surgically was made in view of lack of resources and expertise as far as the endovascular intervention is concerned. The patient underwent right hemicolectomy with ileocolic anastomosis. The operative specimen revealed the cheery red spot on the surface of the ascending colon which was the cause of bleed and proved to be an AVM on histopathology (Figure 4).

DISCUSSION

Arterio-venous malformation comprises of a feeding artery, central nidus and an early draining vein exhibiting an extensive vascular network [1]. A blood vessel with thick wall usually traverses the mucosa and sub-mucosa of the intestinal wall, connects with a vascular nidus in the muscular layers and drains via an early draining vein [2]. AVMs involving intestines are rare

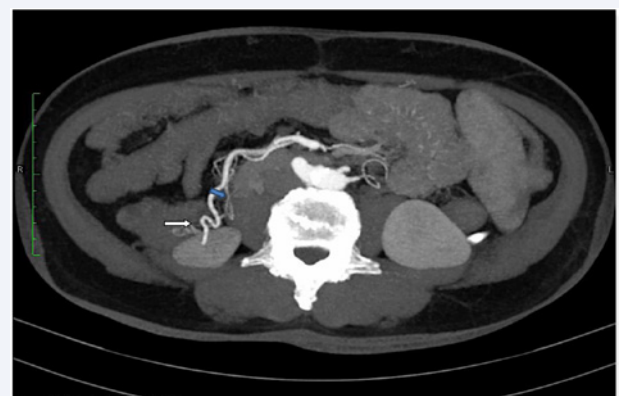


Figure 1 Axial CECT arterial phase MIP image showing a briskly enhancing tortuous vascular nidus (white arrow) within the wall of the ascending colon with early draining vein (blue arrow).



Figure 2 Coronal arterial phase image showing the nidus within the wall of the ascending colon near the hepatic flexure. Splenomegaly is also noted which was secondary to chronic anaemia.



Figure 3 Sagittal CECT arterial phase images showing an incidentally detected splenic artery aneurysm (arrow).

and most cases reported as intestinal AVMs were actually cases of angiodysplasia. Concerning angiodysplasias confusion persists as the term is often used synonymously with AVM, vascular ectasia or vascular dysplasia [3]. However histopathologically these entities are easily differentiated and a definitive diagnosis can be made [4]. Intestinal AVMs although common in the younger population most frequently but many cases in the elderly age group have also been described.

Invasive angiography has been used in the past as the investigation of choice for diagnosing intestinal AVMs; however CT angiography has emerged as an acceptable replacement. CT angiography is simpler to perform, easier to interpret and less invasive than conventional angiography and using 3D-volume rendered reformation has proved to be particularly useful in differentiating vascular malformations from vascular tumors such as haemangiomas or micro cystic lymphangiomas [5].

In our case diagnosis was made using 64-slice MDCT



Figure 4 Intra-operative surgical specimen showing the culprit lesion which was approximately 1.5 cm × 1.2 cm in size appearing cherry red coloured flat lesion on the surface (arrow).

(SIEMENS SOMATOM). Major differential diagnosis includes angiodysplasia, telangiectasia, hemangioma and Dieulafoy's lesion. However the unique imaging feature of arterial phase enhancing lesion with an early draining vein sets AVM apart from other lesions. Surgical resection as was done in our case is considered as the treatment of choice. However endoscopic ligation and endovascular embolization have propped up in the recent past as effective alternatives.

In conclusion intestinal AVM is a stealth entity that can be the cause of an occult bleeding in many patients. Contrast CT with CT angiography should be done in all patients with occult gastro intestinal bleeds to identify stealth bleeders including AVM and other vascular lesions.

CT angiography can therefore act as a guiding light in an otherwise dark field for the surgeons.

REFERENCES

- Hyodoh H, Hori M, Akiba H, Tamakawa M, Hyodoh K, Hareyama M. Peripheral vascular malformations: imaging, treatment approaches, and therapeutic issues. *Radiographics*. 2005; 25: S159-S171.
- Mindelzun RE, Beaulieu CF. Using biphasic CT to reveal gastrointestinal arteriovenous malformations. *AJR Am J Roentgenol*. 1997; 168: 437-438.
- Meyer CT, Troncale FJ, Galloway S, Sheahan G. Arteriovenous malformation of the bowel: an analysis of 22 cases and a review of the literature. *Medicine*. 1981; 60: 36-48.
- Eastman J, Nazek M, Mangels D. Localized arteriovenous malformation of the jejunum. *Arch Pathol Lab Med*. 1994; 118: 181-183.
- Bittles MA, Sidhu MK, Sze RW, Finn LS, Ghioni V, Perkins JA. Multidetector CT angiography of pediatric vascular malformations and hemangiomas: utility of 3-D reformatting in differential diagnosis. *Pediatr Radiol*. 2005; 35: 1100-1106.

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