

Gastric Arteriovenous Malformation: An Unusual Cause of Recurrent Gastrointestinal Bleeding

CL Ling¹, DY Ling¹, WL Ng², E Chung², KW Chan², Ahmad Rafizi Hariz Ramli¹

¹Department of Surgery, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia

²Department of Biomedical Imaging, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia

INTRODUCTION

Upper gastrointestinal (GI) bleed is usually attributed to bleeding peptic ulcer, Mallory-Weiss tear or variceal bleed. Bleeding arising from gastric arteriovenous malformation (AVM) is an unusual incident, accounting for 1.4% of all intestinal AVMs.¹

CASE REPORT

We present the case of an 80-year-old gentleman without any medical illness, who suffered from upper GI bleeding. Oesophagogastroduodenoscopy (OGDS) done revealed submucosal haemorrhage at the gastric fundus and colonoscopy was normal. The bleeding source was a gastric arteriovenous malformation emerging from the left gastric artery identified by computed tomography angiography (CTA) scan. Selective embolisation of the arterial branches was performed with ethylene vinyl alcohol (EVOH). Nevertheless, only half of the AVM was successfully embolised. A follow-up OGDS two months later revealed an onyx cast protruding into the fundus while the rest of the examination appeared normal. As the patient remained well without any recurrence of bleeding a decision was made for close observation, opting not to proceed with second stage embolisation.

DISCUSSION

An AVM is a congenital lesion resulting from an abnormal connection between veins and arteries due to embryonic failure in vascular development.² Gastric AVMs account for 1-2% of nonvariceal upper GI bleeding cases, with the primary bleeding site being the caecum and ascending colon (77.5%).³ Other locations include the jejunum (10.5%), ileum (5.5%), and stomach (1.4%).⁴ Symptoms can range from abdominal pain and chronic anemia to overt or obscure gastrointestinal bleeding.

Upper GI endoscopy is the initial diagnostic tool for upper GI bleeding, with CT angiography and angiography reserved for complex cases. Endoscopic findings of AVMs vary, complicating diagnosis.⁵ Treatment options include surgery and interventional embolisation, the latter being preferred due to lower risk, mortality and cost.⁶ Super selective embolisation, using embolic materials to occlude the arterial branch, is a common technique. Gastric infarction is a rare complication due to the stomach's collateral blood supply.

Continued long-term monitoring is crucial for patients with AVM, as postoperative bleeding rates vary from 5% to 37%. This risk is attributed to incomplete initial resection and/or the emergence of metachronous AVMs, reported in 11% of cases.⁷ Even when embolisation is not complete, as seen in our case, researchers have reported progressive regression of AVM and no symptom of recurrence. In our case, the patient underwent a 2 month follow-up, during which there was no recurrence of bleeding. Further long-term follow-up is needed to establish a clinical course for remnant AVM.



Figure 1: Initial OGDS showing single flat red mucosal lesion at fundus



Figure 2: Post embolization OGDS showed onyx cast protruding into fundus

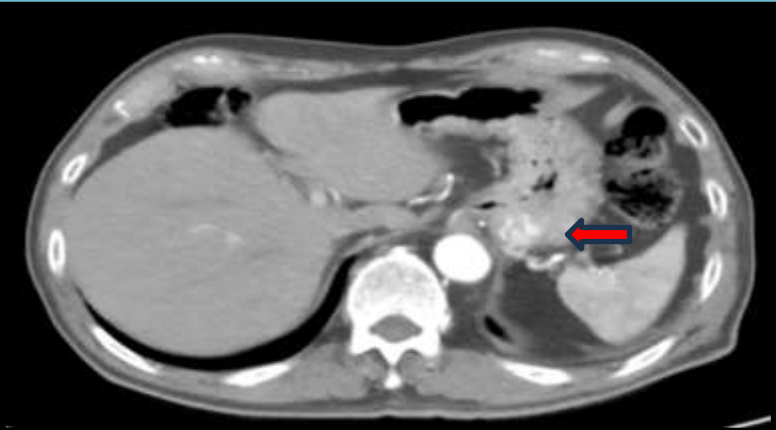


Figure 3: CTA with arrow showing AVM at gastric fundus

CONCLUSION

The diagnosis of gastric AVM through endoscopy poses challenges due to the diverse range of possible presentations. In cases of persistent GI bleeding despite OGDS attempts, percutaneous embolization serves as a less invasive treatment alternative.

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