



Case Report

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Role of Interventional Radiology in The Management of Small Bowel Tumour Bleeding: A Case Report



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Introduction

The evaluation and treatment of acute gastrointestinal bleeding are challenging and often requires a multidisciplinary approach team. There are various imaging modalities and therapeutic interventions are being used currently in acute gastrointestinal hemorrhage. Each of these modalities and interventions has its own strengths and weaknesses. The effectiveness and safety properties of embolization are considered alternative to surgical intervention and it also has minimal complications due to catheter technology advancement. Here we reported a patient with hemorrhagic ileal tumour which underwent a successful embolization with a favourable outcome.

Case Report

A 43 years old healthy Malay lady presented with one day history of sudden onset, painless haematochezia with symptoms of anemia. Clinically patient was pale but without symptoms of hemorrhagic shock. Her abdomen was soft, non-tender with no palpable abdominal mass. Per rectal examination suggestive of acute melena. Other systemic reviews were unremarkable. Patient was then resuscitated with blood products and subjected to upper and lower endoscopies. The upper scope turned out to be normal but there was presence of blood along the large colon till caecum with oozing of blood from ileocaecal valve. Patient was sent for an urgent mesenteric CT angiogram, which showed a hypervascular mass measuring around 3.3x3.8x3.9cm at distal ileum with enhanced arterial phase with suspicious arterial supply from a branch of superior mesenteric artery (SMA). There was presence of multiple small contrast blush within the tumour, which dispersed of contrast on venous phase. Following this, patient underwent successful SMA embolization whereby the SMA ileal branch was embolized with 350-500 micron particles. Post embolization showed no active bleeding with 50% reduction of the mass blood supply. She was scheduled for small bowel resection 2 weeks later. A finding was a small antemesenteric border ileal tumour about 70cm from DJ flexure.

Post-operative recovery was uneventful. HPE of the resected specimen suggestive of benign gastrointestinal stromal tumour and hence patient was subjected for conservative management.

Discussion

Without initiation of appropriate treatment, acute gastrointestinal (GI) bleeding can lead to significant morbidity and mortality. There are many different etiologies causing gastrointestinal bleeding such as vascular anomaly, infection, trauma, malignancy and inflammatory diseases. The anatomical location of the bleeding sources determines the site of the GI bleeding [1,2].

When an abnormality on the inner lining begins to bleed, this leads to GI bleeding. The bleeding may be rapid causing hemorrhage or slow resulting in anemia. Small bowel results in approximately 5% of all gastrointestinal bleeding. Bleeding from the stomach or large bowels are different from the causes of bleeding in the small bowel and arteriovenous malformations results in 30-40% of GI bleeding [1]. Inflammatory bowel disease or Meckel's diverticulum are more likely seen in patients under the age of 40 years. Neoplasm of small bowel (e.g., GI stromal cell tumor, carcinoid, polypoidal lesions, lymphoma or adenocarcinoma) and Dieulafoy's lesions can occur in both older patient or in young cohort. Ulcers secondary to anti-inflammatory agents and other vascular lesions are seen in patients over the age of 40 years [1,3].

In most of the cases, the abnormalities causing the bleeding lie within reach of a standard endoscopy procedure. However, because of the location of the small bowel between the stomach and colon and the length of the small bowel, finding the source of bleeding can be difficult. In this case report, patient had undergone an endoscopic assessment which was non diagnostic and patient remain refractory to conservative management. Therefore, patient were subjected to a non invasive imaging followed by endovascular intervention.

CTA has a sensitivity of 50%-86% and specificity of 92%-95% for identifying lesions responsible for gastrointestinal bleeding and can detect flow rates as low as 0.3mL/min and it can identify the sources of GI bleeding thus helpful for subsequent patient management and intervention. Angiography is able to identify an active bleeding rate of at least 0.5 to 1mL/min and can be performed with digital subtraction for any lower gastrointestinal bleeding. It has a sensitivity of 60%, specificity of 100%, positive and negative predictive values of 100% and 24%, respectively. Endovascular angiography has both therapeutic and diagnostic tool [2,4].

For acute control of acute gastrointestinal bleeding, Transcatheter Arterial Embolization (TAE) is considered effective and safer. Some studies have shown that TAE has the lowest 30-day mortality rate and thus it was considered safer than surgical intervention especially in the high risk patient population [5]. This technique is considered a viable option and can be used as a temporary measure in situation where patient is not suitable or ideal to undergo endoscopic and/or surgical approach. Besides that, this technique reduces the arterial perfusion pressure while maintaining adequate collateral blood flow thus minimize the risk of bowel infarction [3,5].

Gordon et al. [6] has reported that, bleeding was stopped in 13 of 14 patients (93%) in whom embolization was possible, and in 13 of 17 patients (76%) where there was an intention to treat on a retrospective review of success and complication rate of selective arterial embolization for the control of lower gastrointestinal bleeding. There were also no reported bowel infarction in this study. Therefore in view of the safety properties of embolization, this procedure is considered a safer treatment options and are suitable for many patients and effective in most [6].

Another retrospective review by Joshua Gady et al on success and complication rates of post-embolization has concluded that, in the management of lower gastrointestinal bleeding, angiography remains an important diagnostic tool. In patients

with high surgical risk, it is considered a safer and effective treatment option. Besides that, colonoscopy or computed tomography is needed to carefully monitor for evidence of bowel ischemia [1,2,7].

Conclusion

Patients with acute gastrointestinal bleeding must be subjected for thorough imaging studies and endovascular intervention to prevent complications and subsequent sequelae from a GI bleeding. CTA is considered effective and useful in localizing the lesions and in providing information that can be helpful for endovascular intervention or surgery. Active gastrointestinal bleeding stabilization can be achieved via endovascular angiography and transcatheter embolization. As the catheter technology advances, these procedures are considered safe and effective compared to surgical intervention with minimal complications.

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