

Total colectomy in Rare case of angiodysplasia of entire colon

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Abstract

Lower gastrointestinal (GI) bleeding is a significant surgical burden on our society. Angiodysplasia of colon is a vascular anomaly consisting of ectatic dilated vessels in colon. Overall, 6% of Lower GI bleeding cases can be attributed to angiodysplasia of the colon. Most of the patients with this disorder have mild symptoms but 15% patients may present with massive hematochezia. We herein present a case of 53-year-old gentleman who was referred to us with complaints of multiple episodes of per rectal bleeding. Patient had history of receiving multiple transfusions. Multiple investigations were performed including colonoscopy, CT Angiography, digital subtraction Angiography that showed complex vascular malformations predominately in sigmoid, descending and transverse colon. Considerations were given to non-operative management vis-à-vis surgery, following which a decision for total colectomy was taken due to the extensive nature of disease.

Keywords: Angio dysplasia, lower GI bleeding, Hematochezia, vascular ectasia,

Introduction

The gastrointestinal (GI) tract is the most frequent site in the body for various types of abnormal blood vessels, which represent deviations in the normal form of the

affected arteries, veins, or capillaries^[1]. Angiodysplasia most common vascular anomaly of GI tract. It accounts for 6% of cases of lower GI bleeding^[2] Angiodysplasia is defined as abnormally dilated and tortuous small blood vessels in the mucosal and submucosal layers of the gastrointestinal tract. The presenting complaints of patients are mostly lower GI bleeding, but many a times patients can also be asymptomatic and this abnormality might have been picked up on a colonoscopy done for other purposes. The prevalence of vascular ectasia in the general population is not known, largely because most patients remain asymptomatic. It is estimated that up to 6% of the population older than age 50 years have some form of a colonic vascular lesion^[3]. The exact mechanism of the disease has not been established but there are theories which might explain the causative factors behind the development of these abnormal blood vessels. It is hypothesised that there is age related degeneration of small blood vessels which may cause hypoperfusion of micro vessels leading to ischemic necrosis of abnormal vascular lesions^[4]. It might be also associated with other cardiovascular and pulmonary disorders. Another theory proposed for the development of angiodysplasia is due to the ongoing ageing which causes incomplete obstruction of submucosal veins. This further causes incompetency

of precapillary sphincters, resulting in small arteriovenous communications. These vascular lesions are typically located in cecum and ascending colon. They are mostly less than 5mm in diameter and multiple in number. On endoscopy, they are characteristically described as small red flat lesion with ectatic vessels radiating from central lesion. Clinically patient can present with a wide range of symptoms right from occult lower GI bleeding to hematochezia. Usually these episodes of bleeding are self-limiting in more than 90% patients and approximately 15% patients present with massive haemorrhage^[6].

Case report

A 53 year old gentleman was referred to our tertiary care hospital from a peripheral hospital with chief complaints of recurrent bouts of per rectal bleeding. On primary history taking the patient gave this history since last 3 months for which patient was taking some medications from local practitioner.

Each episode of spontaneous bleeding contained fresh red coloured blood approximately 150ml with each episode. The patient had history of 5 packed red blood cell transfusions over the period last 3 days in the peripheral hospital. On arrival to our tertiary care hospital patient was vitally stable without clinical signs of shock. On further evaluation laboratory parameters were as follows: Hb – 9.8gm% , WBC – 9800/mm³ , platelet counts – 3.8lacs/mm³ , INR – 1.23 , D-Dimer – normal , FDP and fibrinogen levels – normal.

This patient was primarily subjected to a proctoscopy which revealed presence of fresh blood clots without any evidence of haemorrhoids , fissures or fistula. Patient was subsequently subjected to colonoscopy to screen the entire colon for presence of any malignancy. On colonoscopy – there were multiple black coloured clots seen in entire colon predominantly in sigmoid and descending

colon with mucosal erythema and ulcerations but the exact source of bleeding was not localised. (figure 1)

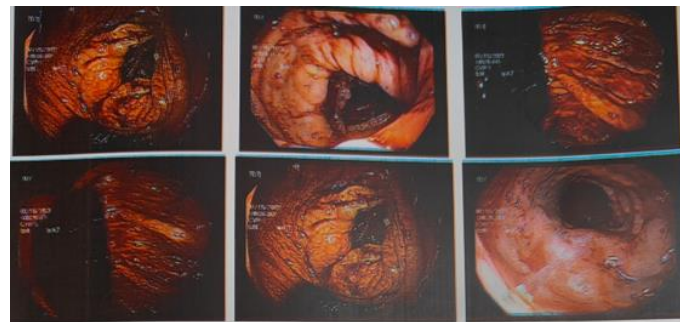


Figure 1: Colonoscopy findings

On CT Angiography it was noted that there were extensive arteriovenous malformations with multiple collaterals involving ascending, transverse , descending and sigmoid colon.

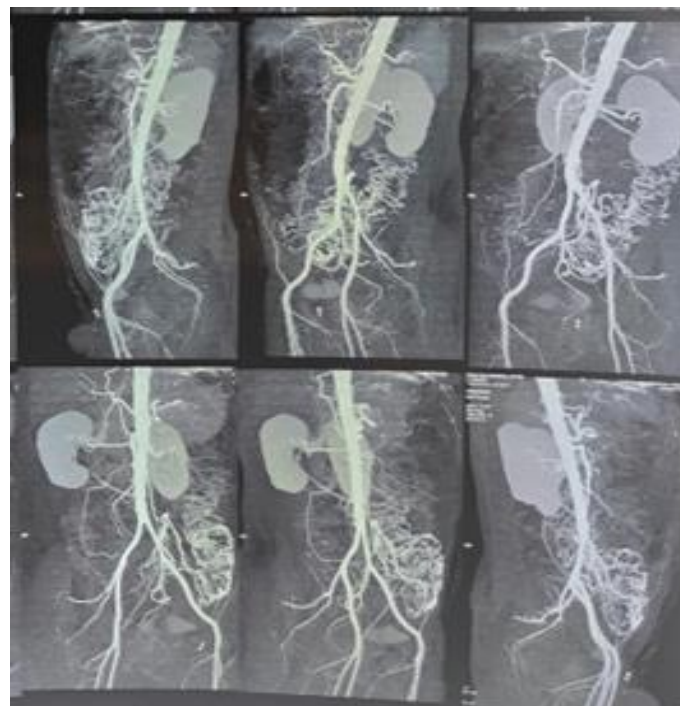


Figure 2: Computed Tomography angiography (CT angiography)

To find the exact source of bleeding, a digital subtraction angiography (DSA) was carried out which showed complex vascular malformations involving almost the entire colon and a network of ectatic blood vessels was noted in the delayed phase.(figure 2,3,4)

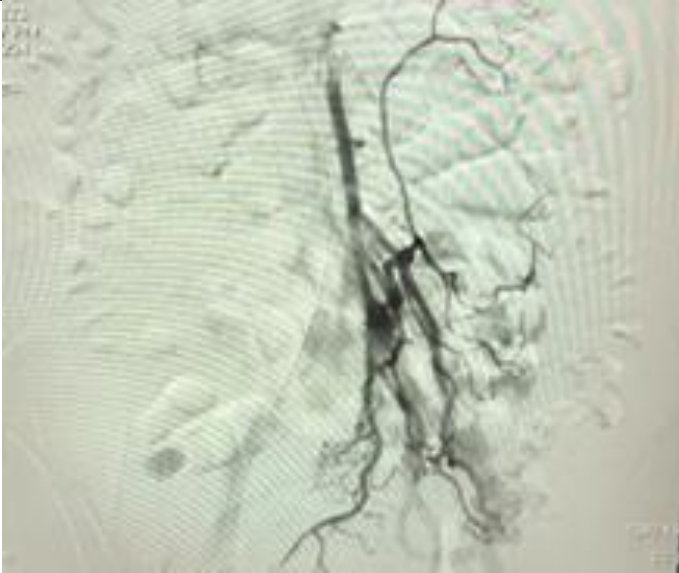


Figure 2 (left): Inferior mesenteric artery cannulation

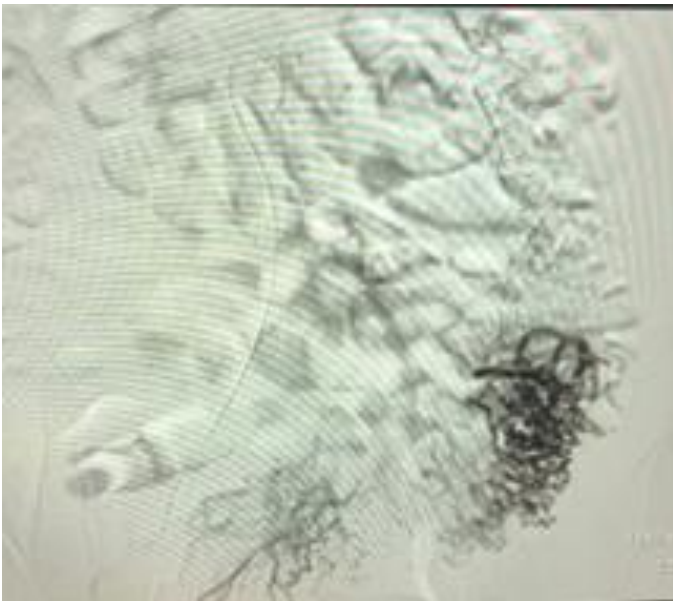


Figure 3(right): Ectatic vessels on delayed phase

Since the patient was transfusion dependant and the source of bleeding was not well localised it was decided to go ahead with exploratory laparotomy after proper optimisation. Intraoperative findings were noted as abnormally dilated vessels along transverse mesocolon and along marginal arteries along the entire colon. A total colectomy was done with an end ileostomy and specimen was sent for histopathological examination. On Gross Examination of specimen (Figure 4), it showed congested and oedematous mucosa with blood clots in

lumen (figure 5) and On histopathological exam mucosa and serosa showed congested blood vessels and haemorrhage consistent with Angiodysplasia of entire colon.



Figure 4 (left): Resected specimen of colon with terminal ileum



Figure 5 (right): section showing blood clots

Patient was started on oral liquid diet on Postoperative day 3 and full oral diet on Postoperative day 5 . Abdominal drains were removed on postoperative day 5

and patient was discharged with an uneventful course in ward on postoperative day 7.

Discussion

Vascular ectasias can be attributed as a cause of lower GI bleeding in older population. Although the most common cause of lower GI bleeding in that population is Diverticular disease of colon but the presence of malignancy should also be excluded with a colonoscopy. Vascular ectasia (Angio dysplasia) can occur in small bowel as well but more frequently is found in large bowel. The disease usually manifests as spontaneously resolving episodes of hematochezia and does not need any other treatment.

However, in certain people it can present as brisk per rectal bleeding leading to hemorrhagic shock and might need aggressive resuscitation and source control. All patients which present with frank hematochezia should always be subjected to proctoscopy to rule out local causes of bleeding like hemorrhoids, fissures. Colonoscopy is an excellent method to screen the entire colon and small part of terminal ileum for source of bleeding after a negative proctoscopy examination. Vascular ectasias are often well localized lesions mostly in ascending colon and cecum which are amenable to treatment with Argon plasma coagulation. The patients who present with hemorrhagic shock should be resuscitated first before doing a colonoscopy. Adequate hydration with colloids and crystalloids will help in optimizing the patient for further investigations needed to see the source of bleeding. CT angiography proves to be an important tool in guiding the surgeons about the vasculature of colonic malformations if in case the surgical approach is to be planned. Advances such as Interventional Radiology can help in limiting the bleeding by various methods such as coiling of the suspected vessels. This has led to huge decrease in

number of surgical explorations needed for treating vascular ectasias of colon.

Our surgical team faced some challenges in managing this patient as the source of bleeding was not localized on routine radiology and colonoscopy. Considering the extent of the disease as seen on digital subtraction Angiography, surgical exploration with total colectomy and end ileostomy seemed the most feasible option as patient was transfusion dependent due to recurrent episodes of bleeding and exact source for bleeding was unknown.

Conclusion

Surgical resection is limited to patients in whom the source of bleeding is not localized on colonoscopy or radiological examinations or in patients who have such extensive disease involving entire colon. Interventional radiology also has limitations in treating patient with such extensive vascular malformations. Total colectomy proves to be one of the most effective procedures in completely eradicating the source of bleeding in such rare cases.

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