

Case Report

DIEULAFOY'S LESION: A LIFE THREATENING DISASTER EASILY MISSED

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Abstract

A 45 year old gentleman was admitted in the gastromedicine department and managed conservatively for upper gastrointestinal bleeding. Upper gastrointestinal endoscopy was done twice which identified the site of bleeding but specific nature of the lesion could not be diagnosed. When his condition deteriorated due to massive bleed, he was transferred to gastrosurgery department and emergency laparotomy performed, a vascular lesion was identified and resected. On histopathological examination the lesion was compatible with Dieulafoy's malformation.

Keywords

Dieulafoy's lesion, Endoscopy, Gastrointestinal Hemorrhage.

Introduction

Dieulafoy's lesion was first described by a French surgeon, Dieulafoy, as "exulceratio simplex", because of its small size and large underlying artery which was normal on histological examination. The lesion has also been given other names: caliber-persistent artery, gastric arteriosclerosis, cirroid aneurysm, and sub mucosal arterial malformation.

Dieulafoy's lesion is an uncommon cause of gastrointestinal bleeding in which significant, and often recurrent, hemorrhage occurs from a pinpoint arterial lesion, usually in the gastric fundus or within 6 cm of the gastroesophageal junction, predominantly on the lesser curve, where the blood supply is through a large submucosal artery arising from left gastric artery^{2,2}. Similar lesions have also been identified in the distal esophagus, small intestine, colon, and rectum. Due to its small size, it is difficult to recognize on routine upper GI endoscopy when there is no bleeding.

The incidence might vary from 0.5% to 14%, depending upon selection criteria². It is thought to be more common in males with a median age of 54 years at presentation³. There is usually no significant nonsteroidal anti-inflammatory drug or alcohol abuse^{4,5}.

Case Report

A 45 year old male presented in the emergency department with complaints of vomiting of fresh blood and passage of black colored stool for 12 days. The patient gave a

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history of epigastric pain for 6 to 7 years for which he was taking antacids on and off. The pain was dull aching, non-radiating, and increased on taking meals. He had no other significant medical or surgical illness. He occasionally took alcohol and smoked 5-6 cigarettes a day.

With provisional diagnosis of upper gastrointestinal bleeding due to acid peptic disease, he was admitted under gastromedicine unit and treated conservatively. On admission, he was alert, ill-looking, pale and mild tenderness was present over epigastric region. Investigation reports were within normal limits except for hemoglobin of 9.1 gm %. Upper GI endoscopy was done twice and the impression was an ulcerative lesion in the fundus with no active bleeding. Ultrasound of abdomen was normal. He had recurrent episodes of bleeding and 8 units of blood were transfused over 6 days. Due to repeated episodes of bleeding despite medical management and deteriorating condition he was referred to gastrosurgery unit.

On review of the case, the patient was pale, and in a state of delirium with blood pressure of 80/40 mm Hg and pulse 84/minute his hemoglobin level had fallen to 4.2 gm %. Soon after a nasogastric tube was inserted the patient had a recurrent episode of bleeding of around one liter. The blood pressure was unrecordable with a thready pulse of 130 per minute. The patient was quickly resuscitated with blood and IV fluids and taken for surgery. Gastrotomy revealed about 500 ml of clot in the stomach (Figure 1) and a small single vascular lesion of around 2mm was

identified in the fundus (Figure 2). Wedge resection of the lesion was done and sent for histopathological examination (Figure 3). Intraoperatively 3 units of blood were transfused. The histopathological examination showed gastric tissue with elongated and slightly tortuous medium sized vessels in submucosa protruding into the mucosa compatible with Dieulafoy's malformation (Figure 4).

Bleeding ceased after surgery and was confirmed by clear nasogastric aspirate. The patient had postoperative wound infection managed by dressing and antibiotics. The patient received another 5 units of whole blood postoperatively. Hemoglobin level on the first postoperative day was 8.6 gm%. He was discharged on the 7th postoperative day with hemoglobin of 11.3 gm %.

Discussion

Although some literatures show that the lesion may be due to congenital or vascular malformation, it was originally thought that Dieulafoy's lesion was caused by an aneurysm in one of the vessels within the gastric wall, perhaps in combination with atherosclerosis^{1,6}. Histological examination of resected specimens and postmortem findings in the past has now helped to predict that it is caused by an abnormally large-caliber persistent tortuous submucosal artery. The artery protrudes through a solitary, tiny mucosal defect of 2-5 mm, commonly in the upper part of the stomach, which may rupture spontaneously and lead to massive bleeding⁷. It has been suggested that the thin mucosa overlying a pulsating artery is eroded

progressively by the mechanical pressure from the abnormal vessel⁸.

The patient usually presents with hematemesis or melaena which is recurrent and often massive. Usually there are no symptoms of dyspepsia, anorexia or abdominal pain. Initial examination may reveal haemodynamic instability, postural hypotension and anemia. Patients with lesions in the duodenal bulb and proximal jejunum present as those with gastric lesions. Patients with lesions in the middle or distal jejunum, right colon and rectum present with massive rectal bleeding⁹.

The diagnosis is usually made at endoscopy or during urgent laparotomy. An oesophago gastroscopy (OGD) can successfully identify the lesions in approximately 82% of patients. Approximately 49% of the lesions are identified during the initial endoscopic examination, while 33% require more than one OGD for identification¹⁰. Increased awareness of the existence of a Dieulafoy lesion and the experience of the endoscopist has led to more identification in the recent years. Endoscopic ultrasound can be a useful tool in confirming the diagnosis of a Dieulafoy lesion, by showing a tortuous submucosal vessel adjacent to the mucosal defect.

Dieulafoy's lesion should be considered when a bleeding site is identified by angiography in the cardia or fundus of the stomach, even if appearances were normal at endoscopy. The mucosa may look normal between bleeding episodes. It has been suggested that, in selected cases where experienced radiological, endoscopic and surgical staff are

available, thrombolytic therapy to precipitate bleeding can be used electively as an adjunct to diagnostic angiography to help in localizing Dieulafoy's lesion¹¹.

Endoscopic therapy is now the modality of choice, which includes electrocoagulation, injection sclerotherapy, heater probe, laser photocoagulation, epinephrine injection, haemoclipping and banding^{12,13}. Endoscopic therapy is said to be successful in achieving permanent haemostasis in 85% of cases. Of the remaining 15% in whom re-bleeding occurs, 10% can successfully be treated by repeat endoscopic therapy and 5% may ultimately require surgical intervention¹⁴. For patients not amenable to endoscopy, angiography and gelfoam embolisation can be tried. In the pre-endoscopic era, surgery was the only treatment available. After a gastrotomy and identification of the lesion, it can be dealt with by ligation of the bleeding vessel, proximal gastric resection, or a large wedge resection.

We had also reported a case of Colonic Dieulafoy's lesion where a patient had to undergo right hemicolectomy¹⁵. In duodenal and proximal jejunal lesions, surgical exploration with intra-operative endoscopy can achieve excellent results and avoid unnecessary bowel resection.

Conclusion

Dieulafoy's lesion is an uncommon cause of GI bleeding but may lead to rapid deterioration of the patient due to ongoing blood loss. The endoscopist should have a

high index of suspicion, even though it can be missed. If diagnosed during endoscopy it can be managed endoscopically in 95% of cases thus preventing surgical intervention.



Figure 1: Clot inside the stomach

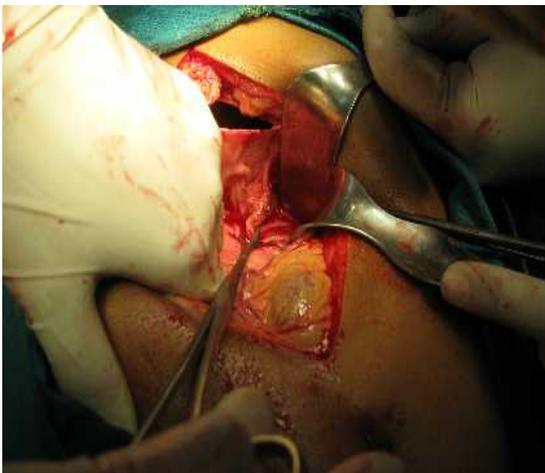


Figure 2: Vascular lesion after gastrotomy



Figure 3: Resected specimen

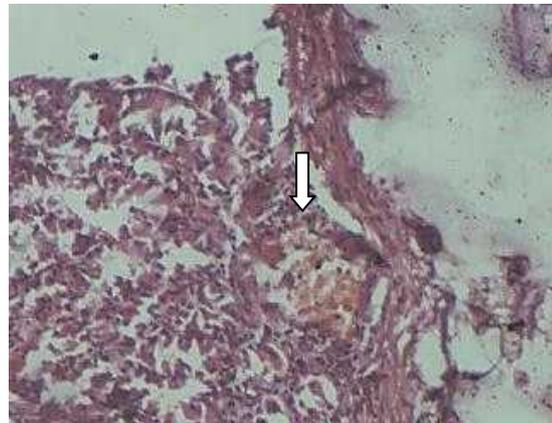


Figure 4 : Submucosal vessel

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