

Case Report

Episodes of Massive Upper Gastrointestinal Bleeding Due to Dieulafoy's Lesion in A 75-Year-Old Man: A Case Report

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ABSTRACT

Aneurysms of gastric vessels (Dieulafoy's disease, caliber-persistent artery) are thought to be of malformative rather than degenerative origin. They are usually single, located in the submucosa, usually on the lesser curvature, and characterized by a large tortuous vessel surmounted by a small defect in the overlying mucosa. When the lesion perforates, massive and sometimes fatal hemorrhage may result. Here, we report one patient with massive upper gastrointestinal bleeding who was treated by surgical resection and later diagnosed with dieulafoy's malformation in the stomach.

Thus, physicians should bear in mind dieulafoy's lesion when they are faced with massive upper gastrointestinal bleeding.

Key words: Aneurysms, Upper gastrointestinal tract, Bleeding

Introduction

The caliber-persistent artery or Dieulafoy's disease is a vascular anomaly characterized by the presence of a tortuous dysplastic artery in the submucosa (1-4). The condition was first described by Gallard in 1884 and later the French surgeon Georges dieulafoy reported 3 cases in 1898 as a cause of gastrointestinal bleeding in the stomach, although it may occur anywhere in the gastrointestinal tract (5). Surprisingly, it can rarely involve respiratory tract and presents with massive hemoptysis (6,7).

Case Report

A 75-year-old man was admitted to the hospital with sudden onset of massive hematemesis in two

episodes. Abdominal pain, melena, anorexia and weight loss were absent. He had no lymphadenopathy or splenomegaly. He was receiving captopril for his hypertension and had a history of cerebrovascular attack from 3 years ago. Blood parameters showed severe anemia and low platelet count. During endoscopy, copious fresh blood within the cardia and the proximal half of the stomach as well as blood clots was revealed. The exact source of bleeding was not visualized and the distant part and duodenum were normal. The patient underwent transfusion and wedge resection of the stomach was performed. Through macroscopic inspection of the specimen measuring 7×6.5×1 cm, we observed two ulcers, one perforated with a diameter of 1.5 cm with the mucosal folds extending towards it. The other one sutured

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with an edematous hyperemic margins. Microscopic examination demonstrated tortuous and large thick-walled vessels in the submucosa with prominent lymphatics associated with a fibrin exudates-rich ulcer on the surface. Moderate lymphoplasmocytic infiltration with no helicobacter pylori was also obvious (Fig. 1).

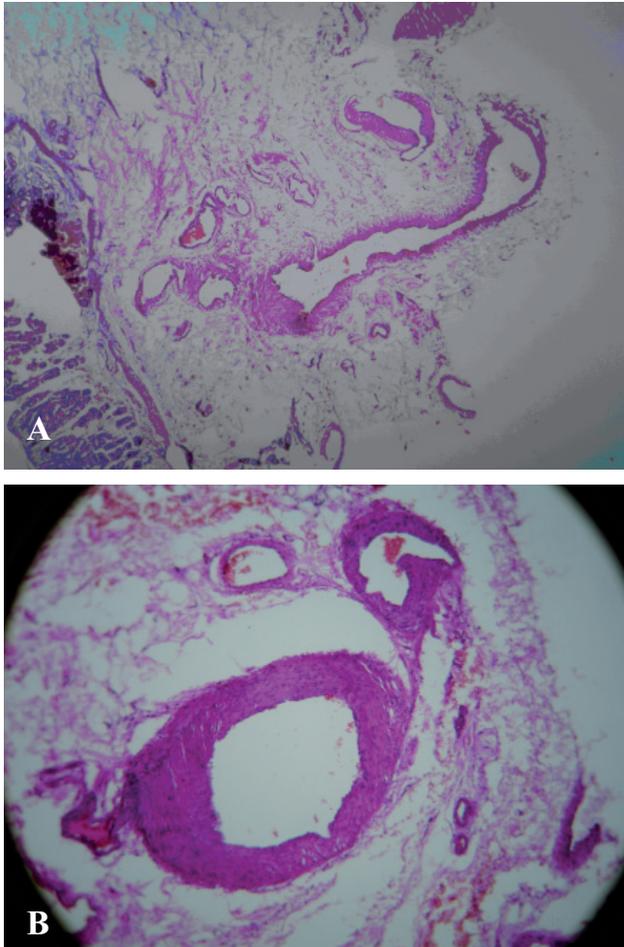


Figure 1. A) Dilated and tortuous vessel in submucosa (H&E×100), B) The thick-walled vessel (H&E×100)

Discussion

Gallard first described this lesion in 1884 and then Dieulafoy, a French surgeon, reported 3 cases in 1898. Dieulafoy's lesion is recognized as a normal submucosal artery associated with a minute (2-5 mm) mucosal defect. It is the cause of 1-5.8% of acute, nonvariceal upper gastrointestinal bleeding, and 0.09% of lower GI bleeding. Bleeding is usually recurrent, but often self-limited in 10% of cases, and can be life-threatening. The most common site of involvement is the stomach and the second location is the bulb of duodenum. It can occur anywhere in

the GI tract, and 2 cases have also been reported in bronchial tree (8-10).

Dieulafoy's lesion is usually a single lesion. The histopathology of this lesion is the same throughout the gastrointestinal tract. Histologically, there is a failure of the submucosal artery to undergo usual ramification within the wall of stomach or failure to diminish to the minute size of the mucosal capillary vasculature. Its diameter at muscularis mucosa level is 1 to 3 mm, which is 10 times the normal vasculature at this level. No true structural aneurysm has been observed. The mechanism of final rupture of the vessel is uncertain. It has been proposed that bleeding occurs as a result of pressure erosion of the overlying epithelium by the ecstatic vessel (5).

Dieulafoy's lesion is typically seen in men, especially those with advanced age like our case. Associated comorbidities are observed in approximately 90% of cases and include cardiovascular disease, hypertension, chronic renal failure, diabetes, alcohol abuse, gastric carcinoma and use of medications including nonsteroidal anti-inflammatory drugs, aspirin, and comarin (5, 11). In our patient, hypertension and medication were positive. These factors suggest that perhaps the final rupture of the vessel results from the combined effects of vascular ectasia, mucosal atrophy, and possibly ischemic injury related to aging and cardiovascular diseases.

Dieulafoy's lesion remains one of the most difficult cases to be diagnosed and it is somewhat a pathologic puzzle. Endoscopy is the first choice for its diagnosis and treatment, but is not always showing the lesion, because of its tendency for brisk bleeding which itself obscure the field of vision. Other diagnostic modalities are endoscopic ultrasonography and angiography (5). Endoscopic hemostasis is the choice treatment. Surgical wedge resection of the stomach is also recommended for the uncontrollable bleeding on an unidentified bleeding site, as we did in our case. Other treatment methods include injection of sclerosant agents, although often complicated by re-bleeding, heat probe coagulation, and use of hemoclip device which provides mechanical prevention of bleeding (4). The mortality rate due to gastrointestinal bleeding as a result of dieulafoy's lesion because of new therapeutic modalities and promptly identifying this lesion is crucial.

In conclusion, Dieulafoy's lesion is a rare but potentially life-threatening vascular anomaly that physicians should consider in their differential

diagnosis when unexplained gastrointestinal bleeding is present.

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