

Esophageal Angiodysplasia. Forgotten Cause of Digestive Bleeding

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Abstract

The case report of a 62-year-old male patient with a history of arterial hypertension, who for 72 hours presented asthenia, generalized pallor and melenas, without hemodynamic alteration, accompanied by dyspeptic symptoms which evolved over several months. An upper gastrointestinal endoscopy was performed showing two vascular lesions in the middle and distal esophagus of 1 and 0.5 cm, on which hemostatic therapy with argon plasma was applied. The progression that followed was satisfactory without presenting new episodes of bleeding.

Keywords: Angiodysplasia; Esophagogastroduodenoscopy; Argon Plasma

Introduction

Gastrointestinal angiodysplasia are superficial vascular lesions, which present greater fragility and a tendency to rupture. Endoscopically they appear as flat or slightly elevated lesions of bright red color; they can be circular or fenestrated and their size ranges between 2 - 10 mm. They are more frequent in people over 60 and are mainly located in the colon (cecum and ascending colon), followed by the small intestine, stomach and rarely in the esophagus. Their etiology is not completely clear, but there is an association with some pathologies where its appearance is more frequent in aortic stenosis, von Willebrand disease, chronic renal failure and liver disease.

Endoscopy is the initial examination in this type of pathology, due to its diagnostic and therapeutic potential. There are other diagnostic methods such as endoscopic capsule or enteroscopy, in addition to radiological studies with therapeutic potential. Hemostatic treatment options vary, among the latter, vasoconstrictor drugs, different mechanical and thermal methods have recently approved different systemic drugs that were in disuse but have been successful in this type of pathology.

Case Report

A 62-year-old male patient who works as a merchant, with a pathological history of arterial hypertension diagnosed five years ago currently treated with Losartan 50 mg daily. Without apparent cause he presents asthenia, generalized pallor, and melenas, without hemodynamic alteration for the last 72 hours, which is accompanied by dyspeptic symptoms which evolved over several months.

Patient's vital signs: blood pressure 120/85 mmHg, pulse of 91 beats per minute, 20 breaths per minute, oxygen saturation of 98%, conjunctival pallor, capillary refill 4 seconds, with the rest of the physical examination normal. In laboratory tests, hemoglobin stands out at 7.6 g/dl and a hematocrit of 23%.

An esophagogastroduodenoscopy (EGD) was performed, showing two vascular lesions of tree-like features, located in the middle and distal third of the esophagus, compatible with angiodysplasia of approximately 0.5 and 1 cm in diameter (Figure 1 and 2).

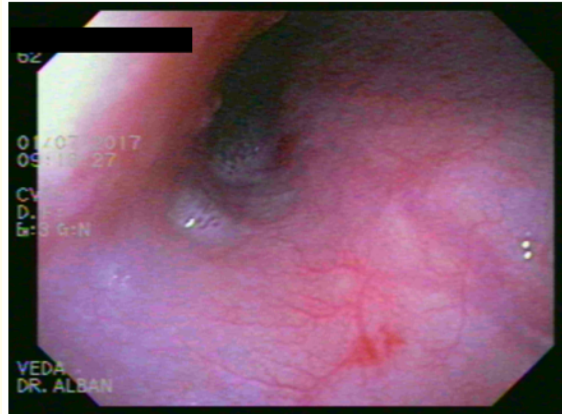


Figure 1: Angiodysplasia in the middle third of the esophagus.



Figure 2: Angiodysplasia in the distal third of the esophagus.

Hemostatic therapy with argon plasma was performed, achieving cessation of bleeding (Figure 3 and 4).

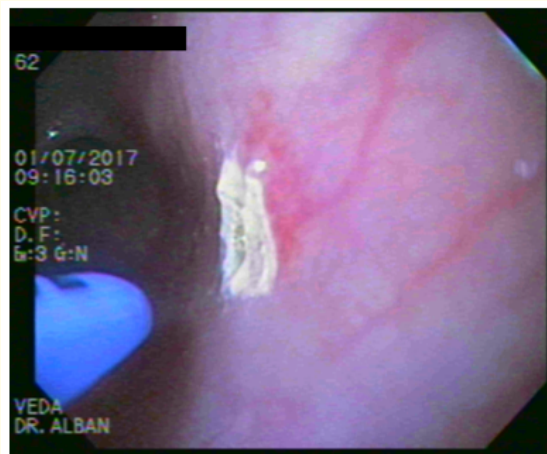


Figure 3: Application of argon plasma on de lesion of mid-esophagus.

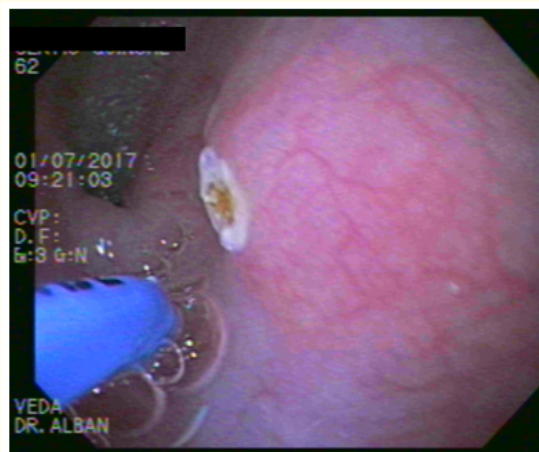


Figure 4: Application of argon plasma in distal part of esophagus.

The patient’s evolution is satisfactory, there was no presence of any new bleeding episodes and an endoscopic control was performed at four months, without findings of new angiodysplasia (Figure 5).

Discussion

There are few reports of angiodysplasia at the esophageal level. Gastrointestinal vascular malformations were first described in 1839 [1]. They are the result of an alteration in the structure of arteries, veins, or capillaries. In 1974, the term gastrointestinal angiodysplasia (GIAD) was used to describe vascular, superficial, acquired, single or multiple lesions that originate in the gastrointestinal mucosa or

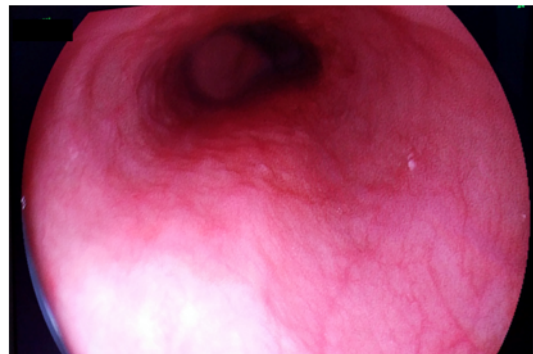


Figure 5: Endoscopic control in 4 months.

submucosa (GI) that are not associated with visceral angiomatous or skin lesions [2]. They present as a bright red, rounded, small lesion (diameter < 10 mm), slightly raised with irregular edges. Histological evaluation shows small vascular dilations that affect the veins and capillaries of the mucosa and GI submucosa [3].

It affects both genders equally, its prevalence increases in patients aged > 60 years [4] and in relation to certain pathologies such as aortic stenosis, chronic renal failure, and von Willebrand disease [5]. They represent 4% of all causes of upper gastrointestinal bleeding and are found mainly in the colon, predominantly in the cecum and ascending colon, often following the stomach, duodenum and less frequently in the esophagus [6].

The differential diagnosis includes other GI vascular malformations such as benign vascular tumors (hemangiomas), malignant vascular tumors (angiosarcomas), hereditary hemorrhagic telangiectasia, and other acquired malformations such as gastric antral vascular ectasia, post radiation vascular ectasia and Dieulafoy lesion [7].

The etiology and mechanisms that lead to the constitution of the GIAD are not yet fully elucidated. A possible age-related mechanism, described by Arribas, is a partial obstruction of the submucosal veins secondary to a greater contractility of the muscular layer. This chronic obstruction causes a weakening of the pre-capillary sphincters creating congestion, which ultimately leads to damage of the pre-capillary sphincters, arteriovenous communications, and the development of collateral vessels [4].

When the location of the lesions is in the upper digestive tract or colon, the first diagnostic option will be EGD and colonoscopy, respectively. When lesions are found in the small intestine, capsule endoscopy and enteroscopy are the main diagnostic methods [8]. Capsule endoscopy of the small intestine is the preferred method of evaluation of the small intestine due to a higher or equivalent diagnostic performance when compared to other more invasive techniques such as thrusting enteroscopy, mesenteric angiography or intraoperative enteroscopy [9].

GIAD-related imaging techniques are useful for diagnostic and eventually therapeutic purposes. The techniques used include radionuclide scanning, multiphase transverse images and catheter angiography. Technetium-99m-labeled red blood cell centogramma can locate GI bleeding when blood flow is more than 0.1 mL / min. It is a non-invasive test, however, its location accuracy is low and it does not allow therapeutic intervention [10]. Enterotomography and enteroresonance are minimally invasive techniques and have no therapeutic capacity. Enterotomography has a higher spatial resolution that can improve the detection of small lesions (masses and vascular anoma-

lies). Enteroresonance on the other hand, allows imaging of the small intestine without radiation exposure. It has a superior soft tissue contrast. Arteriography requires a flow of 0.5 - 1 ml/min but its advantage lies in the possibility of performing angiographic therapy in unstable patients or in those which an endoscopic study cannot be performed [8].

The choice of treatment depends on the clinical presentation. The goal of treatment is to stop bleeding, but to also prevent more episodes from occurring. Treatment is indicated after having ruled out all other causes of bleeding [11] and they will depend on the size, site, and amount of lesions, as well as the clinical severity of anemia and bleeding. The treatment with argon plasma coagulation (APC) is the standard referencial treatment [12]. It is a thermal method of contactless hemostasis that involves the use of ionized argon gas, which is directed through an endoscopic probe. The depth of coagulation varies from 0.5 to 3 mm (superficial mucosa). The recommended output setting is: 0.8 L/min and 50 W in the stomach; 0.6 L/min and 40W in the esophagus, duodenum, small intestine, ascending colon and cecum; and 0.8 at 1 L/min and 50W in the descending colon [12].

GIAD coagulation with bipolar electrocautery (BE) was the standard of care in the 1980s. Its use is currently not recommended, due to the high risk of perforation (3%), especially in the blind, as well as its high rate of recurrence (> 50% after 3 years of follow-up) [13].

Endoclips have shown their efficacy in the treatment of specific cases such as large GIAD, isolated bleeding with a visible feeding arteriole and in patients with a high risk of recurrence (antiplatelet treatment and coagulation defect) and can be used alone or in combination with thermal type hemostatic techniques (APC, BE) [14,15].

Cryotherapy allows the destruction of GIAD through the use of cryogenic refrigerants (such as nitrous oxide). This technique is being evaluated and there is little data available. Other endoscopic techniques have been tested in this context, but the available data and the number of cases are limited. Ligation with endoscopic band, allows vascular obstruction by strangulation has demonstrated immediate hemostatic efficacy in gastric angiodysplasia [16]. Sclerotherapy is rarely used for GIAD, although two studies showed promising results without reported adverse events [17,18].

Regarding drug treatment, its main objective is to prevent recurrence. Hormone therapy is generally not recommended for active or hidden bleeding caused by a GIAD lesion. Somatostatin analogues have been shown to improve platelet aggregation, decrease splanchnic blood flow, increase vascular resistance and inhibit angiogenesis [18]. Thalidomide is an immune modulator that suppresses the tumor necrosis factor and inhibits angiogenesis. There are case reports and series on its effectiveness in reducing the risk of recurrence of bleeding related to GIAD [19].

Percutaneous embolization is the recommended method in cases of GIAD with active bleeding when endoscopic treatment has failed. Transcatheter embolization, through the use of biodegradable and micro-spiral gelatin sponges, when available, is the angiographic technique of choice; its success rate is 80% -90% [20]. Currently, surgery has been reserved for cases in which previous, endoscopic, or radiological methods fail. In general, it is estimated that it is necessary in 12% of cases [21].

Conclusion

There is little evidence available on an esophageal angiodysplasia due to its low incidence. Their management is similar to that of other GIAD, being important to identify comorbidities or associated risk factors.

In the case presented, the 0.5 and 1cm lesions located in the middle and distal third of the esophagus were treated successfully with argon plasma therapy, which resulted in the eradication of the lesions and therefore preventing their recurrence. These types of pathologies should be managed in reference units with access to endoscopy, interventional radiology, and surgery services.

Ethical Responsibilities

Protection of people and animals. We declare that no experiments have been conducted on humans or animals for this research.

Confidentiality of the Data

The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to Privacy and Informed Consent

The authors declare that patient data does not appear in this article.

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Conflict of Interests

The authors declare that they have no conflicts of interest.

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