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Case Report

Sclerotherapy for the Treatment of Gastric Antral Vascular Ectasia in Case of Contraindications to Argon Plasma Coagulation

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Abstract

Gastric antral vascular ectasia (GAVE) is a rare cause of chronic gastro-intestinal hemorrhage. GAVE can be observed in patients with cirrhosis and it is involved in several cases of persistent anemia, sometimes requiring blood transfusions due to the severity of anemia. Argon Plasma Coagulation (APC) has been proven to be effective and safe in the treatment of GAVE, the only contraindications being the presence of a pacemaker or defibrillator, susceptibility to electrical interference. We here report the case of a patient bleeding from GAVE with contraindications to use of APC. In this patient sclerotherapy with Polidocanol proved to be safe and effective endoscopic procedure, representing a potential alternative to Endoscopic Band Ligation (EBL).

ABBREVIATIONS

APC: Argon Plasma Coagulation; GAVE: Gastric Antral Vascular Ectasia; EBL: Endoscopic Band Ligation

INTRODUCTION

Gastric Antral Vascular Ectasia (GAVE) is a rare cause of chronic gastro-intestinal hemorrhage. GAVE can be observed in patients with cirrhosis, autoimmune connective tissue disorders, bone marrow transplantation or chronic renal failure [1]. Due to the endoscopic appearance often similar to the external stripes of the watermelon, this condition is also called "watermelon stomach". Sometimes, red spots are distributed diffusely throughout the antrum (diffuse pattern). Argon Plasma Coagulation (APC) has been proved to be effective and safe in the treatment of GAVE. More recently Endoscopic Banding Ligature (EBL) [2] has been proposed for the treatment of GAVE in patients with relapse after APC treatment. Results about EBL safety and efficacy derive from a retrospective analysis of 8 case reports [3]. Use of sclerotherapy with polidocanol in addiction to an endoscopic electrocoagulative technique has been proposed in a single report [4]. In this report we decided to use sclerotherapy in combination with APC, the electro-coagulative gold-standard technique for the treatment of GAVE. Sclerotherapy is the targeted chemical ablation of vessels by injection of a sclerosing drug. Two sclerosing drugs are licensed in the majority of the European countries, polidocanol and sodium tetradecylsulphate. Once injected inside or close to blood vessels, sclerosing drugs act as tissue irritants, causing vascular thrombosis and endothelial injury, leading to vascular destruction. Histologically, GAVE is characterized by submucosal enlarged vessels that can erode through the mucosa, leading to hemorrhage. Scientific rationale of polidocanol injection could be explained by the compressive effect caused by the oedema of submucosa and the thrombosis of submucosal vessels that are enlarged and over-represented in this disorder. Polidocanol solutions are available at 0.5%, 1%, 2% and 3%. Its use has been widely proven to be safe, without systemic side effects or allergic reactions [5].

Main indications for endoscopic injection of polidocanol are active gastroduodenal bleeding from ulcers or oesophageal bleeding from varices. This injection treatment has been used also to prevent recurrence of bleeding in presence of signs of previous hemorrhage [6,7]. Endoscopic sclerotherapy with polidocanol in association to cyanoacrylate has been successfully proposed for the treatment of bleeding gastric varices [8]. Surgical antrectomy by Billroth I anastomosis can be considered in selected cases of persistent relapse in which endoscopic and pharmacological

treatment have been unsuccessful [1]. We report our experience in a patient with contraindication to APC in a unit without EBL availability for the treatment of refractory GAVE.

CASE PRESENTATION

A 69-year-old man, affected by compensated HCV-related cirrhosis, presented to our Hospital for a severe acute anemization (Hb) 5.8 g/dl and melena. Comorbidities were type 2 diabetes mellitus and a third degree atrioventricular block with a monopolar pacemaker dependency, defined as the inability to produce the intrinsic rhythm if stimulation is interrupted and indicated in the patient's cardiology report [9]. Our patient was on anticoagulation. In his history, patient experienced two complications during a previous endoscopic procedure for the treatment of GAVE with APC: an acute bleeding by a large iatrogenic lesion of an oesophago-gastric varix, likely due to extreme visceral distension consequent to gas use, and an interference with the implanted cardiac device requiring an immediate reset. The patient was immediately given 3 units of packets of red blood cells reaching a Hb value of 8.5 g/dL. At day 3 Hb value decreased to 7.5 g/dL and an EGD was performed showing a large oesophageal varix without signs of recent bleeding and a spontaneously bleeding watermelon stomach. A submucosal injection of 20 mL of a solution of polidocanol 1% on linear red stripes of the antrum was performed. The same treatment was repeated two weeks later to ensure a sufficient eradication of antral lesions. Patient received sucralfate and omeprazole for five weeks after the first endoscopic treatment. Since the first treatment, hemoglobin level reached stable values of about 10g/dL. Two months later hemoglobin value was 9.8 g/dL and a new EGD was performed showing a marked improvement of the watermelon stomach with a partial reduction of antral lesions and a complete resolution of apparent bleeding (Figure 1). During the follow-up period, the patient did not receive iron supplementations or blood transfusions.

DISCUSSION

Gastric antral vascular ectasia represents a therapeutic challenge because it is involved in several cases of persistent anemia, sometimes leading to blood transfusions due to the severity of anemia. APC represents the gold standard in the treatment of GAVE and the contraindications are the same described for the use of monopolar electrosurgery coagulation devices such as the susceptibility to electrical interference of a pacemaker or defibrillator. The potential complications include visceral perforation, gas embolism, bleeding, post-procedure stenosis, and injury to deeper structures, as previously described for electrosurgery. APC is a monopolar electrosurgical procedure in which electrical energy is transferred to the target tissue using argon gas. In this report, our patient presented an absolute contraindication to APC use. A previous episode of a monopolar current interference with the implanted cardiac device in a patient with a pacemaker must be considered as an absolute contraindication to APC use. EBL was not available in our Endoscopy Unit at the time of the procedure. In the literature, the use of polidocanol for the treatment of GAVE has been reported by Cugia et al. [4]. who demonstrated that, in patients affected by HCV-related cirrhosis, three sessions of endoscopic therapy with monopolar electrocoagulation (electrohydrothermal) and injections of 5% polidocanol resulted in a significant reduction of visible lesions of GAVE. Consequently to this therapeutic approach anemia improved significantly with stable hemoglobin levels for all the follow-up period. To our knowledge, this is the first case report in which sclerotherapy with polidocanol is used in monotherapy for the treatment of GAVE. In conclusion, this report indicates that in patient with bleeding from GAVE and contraindication to the use of APC, sclerotherapy with polidocanol is a safe and effective endoscopic approach, and represent a valid alternative to EBL. Additional studies should be carried out to validate these results. In our opinion, this new endoscopic approach may be useful both in patients with refractory GAVE and in diffuse GAVE.

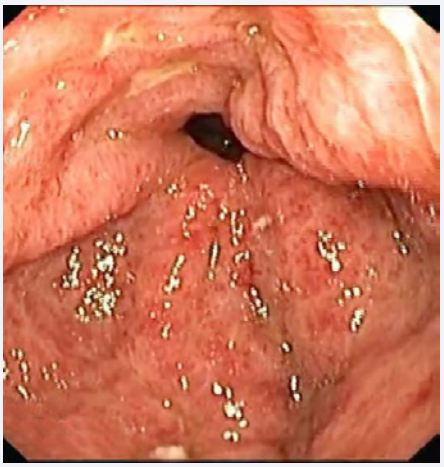

Figure 1 Gastric Antral Vascular Ectasia (GAVE), watermelon stomach, with a partial reduction of antral lesions after (two months) treatment with Polidocanol.

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