Journal of Health Sciences

CASE REPORT Open Access

Gastric antral vascular ectasia: a case report

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ABSTRACT

Gastric antral vascular ectasia (GAVE) is a vascular gastric malformation which represents a rare cause of upper gastrointestinal system bleeding, mostly in elderly. It is usually presented with a significant anemia and it is diagnosed with an endoscopic examination of the upper gastrointestinal system. The disease is often associated with other chronic illnesses such as liver cirrhosis, scleroderma, diabetes mellitus and arterial hypertension. It is treated symptomatically in terms of anemia correction with blood transfusions and iron supplements, proton pump inhibitors, beta-blockers and endoscopic procedures such as argon plasma coagulation which currently represents the treatment of choice in Sy. GAVE cases. We report a case of a 76 years old female patient who was admitted to the hospital because of general weakness, exhaustion and abdominal pain. Laboratory analysis of blood went in favor of anemia. Proximal endoscopy showed no changes on the esophagus, the stomach had a normal volume with pale mucosa and signs of antral vascular ectasia which is presented typically as a "watermelon" stomach due to the longitudinal creases oriented toward pylorus. The patient was treated symptomatically in terms of anemia correction with blood transfusions and iron supplements, proton pump inhibitors, beta-blockers. Five months later control proximal endoscopy findings were identical to those found in the previous hospitalization.

Keywords: endoscopy; GAVE; gastric antral vascular ectasia; gastrointestinal bleeding

INTRODUCTION

Gastric antral vascular ectasia, scientifically identified also as Sy. GAVE is a rare and usually undiagnosed cause of the occult gastrointestinal bleeding, mostly in elderly. Proximal endoscopy usually reveals longitudinal creases oriented towards pylorus. It is also known as a "watermelon stomach" due to the longitudinal "stripes". It is histologically characterized with dilated and thrombosed capillaries as well as with fibro muscular hyperplasia of lamina propria. The treatment includes conservative procedures such as blood transfusions and endoscopic therapy with argon plasma coagulation. Recent reports suggest that Endoscopic Band Ligation (EBL) is a regular and efficient alternative treatment.

A study by Irish authors reported an overall treatment of 23 Sy. GAVE cases. Eight patients were treated with EBL, with a mean number of 2.5 treatments. Six (75%) of those eight patients had previously failed APC (argon plasma coagulation treatment) despite having a mean of 4.7 sessions. Band ligation was not associated with any complications. EBL treatment resulted with the significant improvement of endoscopic finding and the need

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Submitted July 23 2014 / Accepted September 6 2014

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for blood transfusions was periodical (1). Antral vascular ectasia is considered as a cause of nonvariceal upper gastrointestinal system bleeding in 4% of cases (2).

The disease can be presented with occult bleeding which demands blood transfusions or as acute gastrointestinal bleeding. It is often associated with a significant mortality and morbidity rate and following comorbidities: scleroderma, diabetes mellitus and arterial hypertension. Sy. GAVE may also be developed as a complication after haematopoetic stem cell transplantation or after per oral or intravenous application of busulfan (3). An average of 30% of Sy GAVE cases is associated with liver cirrhosis (4). The treatment of the syndrome is divided into three categories: pharmacological, endoscopic and surgical. A few studies compared the efficiency and complications of endoscopic and medicamentous treatment of Sy. GAVE. Current evidence of endoscopic Sy. GAVE treatment are insufficient. Sy. GAVE diagnosis is often based on endoscopic examination according to its characteristical appearance, thus it can be easily misinterpreted with mild to severe form of gastritis. Radiofrequency ablation represents an alternative therapeutic option for Sy. GAVE. It is considered a secure and effective method (5). Among the most frequent illnesses associated with Sy GAVE is a chronic renal insufficiency (6).

CASE REPORT

A female patient, 76 years old, was admitted to the Department of Internal Medicine, General hospital "Prim.dr. Abdulah Nakaš", Sarajevo in December, 2012. The symptoms on the day of the admission were general weakness, exhaustion and abdominal pain. Laboratory findings on the admission reported signs of anemia: RBC 3.71 × 10^{12}, Hemoglobin 87.4 g/L, Hematocrit 0.28, MCV 74.8 fL, MCH 23.6 pg, MCHC 315 g/L, Reticulocytes 8 × 10^{3}/E. Plt 103 × 10^{9}/L, WBC 4.1 × 10^{9}/L. Serum iron level 3.7 umol/L, TIBC 66.0 umol/L, UIBC 62.3 umol/L. The abdominal ultrasound showed signs of chronic calculous cholecystitis, with a bended gallbladder and a slightly larger spleen - craniocaudal diameter of 15.5 cm. Proximal endoscopy - showed no changes on the esophagus, the stomach had a normal volume with pale mucosa and antral vascular ectasia – typical watermelon finding (Figure 1). Duodenal bulb showed no changes, D1 and D2 were neat.

During hospitalization, the patient was treated with deplasmatized erythrocytes transfusions (a total of 300 ml), parenteral iron supplements, primarily intravenously administered proton pump inhibitors followed with peroral administration of the same. The patient was discharged with a recommendation of per oral use of proton pump inhibitors in a single dose of 40 mg per day with non-selective beta blockers, Propranolol in a single dose of 40 mg per day. On April, 2013 the patient was readmitted to the Department because of severe anemia signs: RBC 2.54 × 10*12, Hemoglobin 51.0 g/L, Hematocrit 0.17 I, MCV 65.7 fL, MCH 20.1 pg, MCHC 305 g/L, Plt 171 × 10*9/L, WBC 5.6 × 10*9/L, RDW 18%. Follow up proximal endoscopy findings were identical to those found in previous hospitalization – antral vascular ectasia was still present (Figure 2).

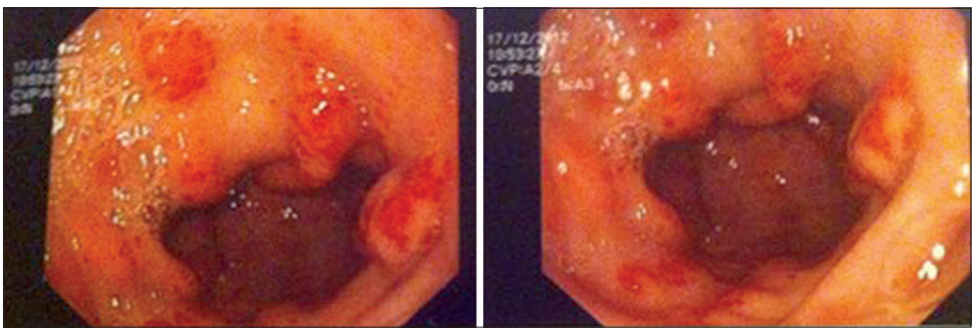

FIGURE 1. Endoscopic image of GAVE. Typical endoscopic appearance of "watermelon" stomach after the first exam.

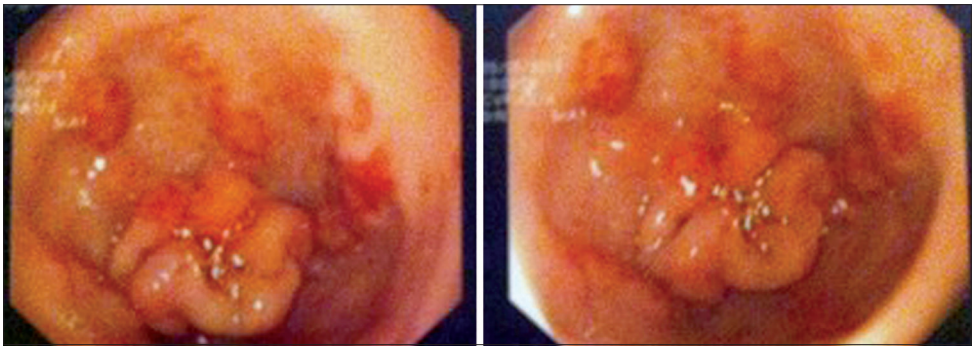

FIGURE 2. Control endoscopic image – GAVE still present - Four months after the first exam – the same findings still persisting.

DISCUSSION

Gastric antral vascular ectasia represents a vascular malformation of gastrointestinal system and a rare cause of upper gastrointestinal tract bleeding. Hemorrhage within Sy GAVE may be profound as well as occult with signs of mild, moderate or severe anemia. The disease may be treated conservatively by anemia correction with blood transfusion and iron supplements as well as with proton pump inhibitors and beta blockers. Well-designed controlled randomized studies will be necessary to prove the efficacy and complications of conservative and endoscopic treatment of Sy. GAVE (7). According to some authors capsule endoscopy is superior in GAVE syndrome cases, compared to classic endoscopic examination. The diagnosis may be established with an endoscopic examination only, although it may be misdiagnosed with moderate to severe form of gastritis. Classic endoscopic examination is considered to be physiological without need for air insufflations and consequent vascular compression and therefore misdiagnosis of the same (8). Current model of invasive treatment is proximal endoscopy with argon plasma coagulation. Proximal endoscopy with APC is in general more acceptable way of treatment for Sy. GAVE patients, although many of them continue to bleed and demand continuous blood transfusions after the treatment and show a low level of endoscopic improvement. Endoscopic band ligation (EBL) according to mentioned studies proved to be a safe and effective treatment of GAVE. Radiofrequency ablation may serve as an alternative therapeutic method. Endoscopic laser photocoagulation or diathermia are proved to be efficient in stopping hemorrhage. Antrectomia represents the final and only definitive therapeutic solution specially in patients with severe symptoms such as severe anemia and recurrent profuse bleeding (9).

CONCLUSION

Gastric antral vascular ectasia or Sy. GAVE represents a group of vascular gastric malformations and is a rare cause of upper gastrointestinal system bleeding. The diagnosis is set throughout a proximal endoscopy exclusively. It may be treated conservatively with proton pump inhibitors and beta blockers or using invasive methods such as argon plasma coagulation, radiofrequency ablation or endoscopic band ligation.

CONFLICT OF INTEREST

The authors declare that they have no competing interests.

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