IOSR Journal Of Pharmacy
(e)-ISSN: 2250-3013, (p)-ISSN: 2319-4219
Volume 13, Issue 4 Series. I (April 2023), PP.11-14
www.iosrphr.org

Gastric Antral Vascular Ectasia (Watermelon Stomach) – A Cryptic and Often Disdained Cause of Gastrointestinal Bleeding In the Elderly- A Case Report

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Received 25 April 2023; Accepted 08 May 2023

ABSTRACT
Gastric Antral Vascular Ectasia (GAVE) is a rare clinical disease which can cause recurrent upper gastrointestinal (GI) tract bleeding. This is a condition in which the blood vessels in the lining of the stomach become fragile and become prone to rupture and bleed. It is responsible for the occurrence of about 4% of non-variceal upper GI hemorrhages. GAVE is also known as watermelon stomach because of its characteristic endoscopic appearance. The disease is usually associated with chronic illness, mostly liver cirrhosis and connective tissue diseases. The pathophysiological reasons for GAVE have not been clearly understood and remain controversial. Since this is a rare disease, the ways of approach to its management have a major role. Here we report the case of GAVE which resulted in Upper GI bleed in a 48 year old male patient who was admitted with the complaints of giddiness for 3 months and anemia. The patient was treated in a private hospital with Argon Plasma Coagulation (APC) and medications.

KEY WORDS
GAVE, Watermelon Stomach, APC, Endoscopy, Vascular ectasia

I. INTRODUCTION

Gastric Antral Vascular Ectasia (GAVE) is a rare clinical disease which can cause recurrent upper gastrointestinal (GI) tract bleeding. In this condition, the blood vessels in the lining of the stomach become fragile and become prone to rupture and bleeding. The stomach lining exhibits the characteristic stripes of a watermelon when viewed by endoscopy and so this vascular disease is also known as 'Watermelon stomach'[1]. GAVE is commonly associated with chronic illness, most frequently liver cirrhosis and connective tissue diseases [2]. The estimated prevalence of GAVE ranges from 0.3 percent of cases in a large endoscopic series to 4 percent in highly selected cohorts with severe gastrointestinal bleeding [3].

The clinical manifestations of the disease include iron deficiency anemia, fatigue, vomiting blood, blood in stools, abdominal pain, nausea, chronic blood loss and internal bleeding. It remains unclear exactly what causes watermelon stomach, but it is stated that it is due to achlorhydria, hypergastrinemia, low levels of the digestive enzyme pepsinogen and liver failure which causes a buildup of hormones that dilate blood vessels. The diagnosis of GAVE syndrome in patients with kidney or liver disease is often problematic because there are more frequent causes of gastrointestinal bleeding in these diseases (vascular malformations, peptic ulcer disease, esophageal or gastric varices, and colonic and rectal ulcers) that hide GAVE syndrome [4].

This rare disease is managed by 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 [5]. Here in this case also; the patient had received standard care with

blood transfusions and with endoscopic argon plasma coagulation. Argon plasma coagulation is a new method for coagulating tissue which employs a high frequency electric current and ionized argon gas.

II. CASE REPORT

We report the case of a 48 year old man with a history of chronic liver disease with portal hypertension who was admitted in the emergency department with the complaints of giddiness for 3 months. The patient didn't report any alcohol consumption and also there was no history of rectal bleeding, melena or hematemesis. He was evaluated outside and found to have anemia. 15 days back, Endoscopic Variceal Ligation (EVL) was carried out because of the presence of esophageal varices showed in the upper GI endoscopy.

Blood examination revealed severe anemia (Hb value 3.8 g/dL) with low levels of MCH (Mean Corpuscular Hemoglobin) and MCHC (Mean Corpuscular Hemoglobin Concentration). Platelet count was in the border line as1.5 lakhs/cumm while there was no leukocytosis. There were an elevated levels of ESR (90 mm/hr) and reduced levels of total protein (5.2 g/dL) and serum albumin (2.6 g/dL). Other parameters associated with liver function showed normal values.

The patient was initially treated with antibiotics (INJ CEFTRIAXONE-2g-OD), vitamin supplement (Vit B1), Vitamin K (1mg) to prevent bleeding and proton pump inhibitor (INJ PANTOPRAZOLE-40mg-OD). He was also treated with Inj TERLIPRESSIN (1mg), which is a synthetic analogue of vasopressin that was stopped when the hemoglobin levels became stable. Liver protectants like Ursodeoxycholic acid (300mg-BD) and Ademetionine (400mg-BD) were also given. Blood transfusion was also carried out for 4 days and on the day of discharge, hemoglobin levels reached 7.5g/dL from 3.8g/dL.

An urgent upper endoscopic examination showed residual esophageal varices, mild portal hypertensive gastropathy and Gastric Antral Vascular Ectasia together with bleeding. The patient was also being taken ultrasound of abdomen and pelvis which showed chronic parenchymal liver disease with portal hypertension, splenomegaly, moderate ascites and also pseudo thickening of the walls of gall bladder. A watermelon stomach extending from the pyloric ring to the sub-angular region was detected (Fig 1). A progressive coagulation of the mucosal vascular network was carried out with the procedure called Argon Plasma Coagulation (Fig 2A, 2B). The patient cooperated with the procedure, no bleeding or other intraoperative complications occurred.

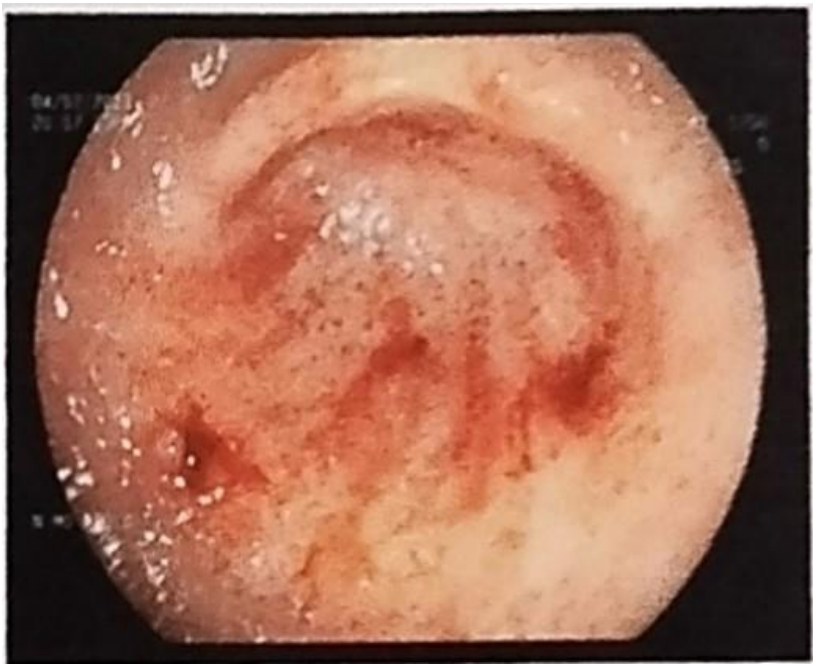

Fig. 1. Endoscopic appearance of GAVE

The patient did not experience any pain and oral feeding was well tolerated and hence on the second postoperative day he was discharged along with the discharge medications; Tab Rabeprazole (20mg BD), Tab Ursodeoxycholic acid (300mg BD), Tab Carvedilol (3.125mg OD), Sucralfate syrup (10ml TDS) and Multivitamin supplements.

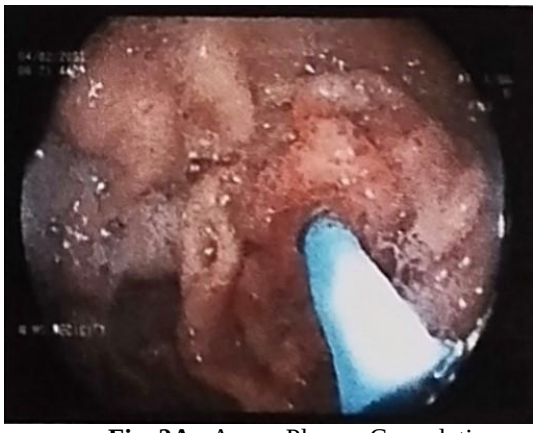

Fig. 2A. Argon Plasma Coagulation

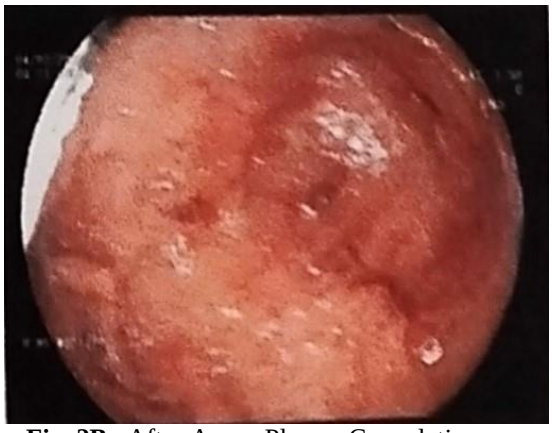

Fig. 2B. After Argon Plasma Coagulation

III. DISCUSSION

Gastric antral vascular ectasia (GAVE) refers to dilated blood vessels in the antrum that radiate to the pylorus. GAVE is frequently linked to chronic liver disease, as well as autoimmune and connective tissue disorders, hepatocellular carcinoma, hypothyroidism, sclerosis, and systemic lupus erythematosus. This condition is an uncommon cause of upper GI bleeding, accounting for about 4% of all non variceal GI hemorrhages and 6% of upper GI hemorrhages in patients with liver cirrhosis [6]. In recent years, endoscopic therapy (Cryotherapy, APC, Endoscopic band ligation, Radiofrequency ablation) has become the mainstay of GAVE management with acceptable success rate and few complications. Other medical managements include corticosteroids, octreotide, tranexamic acid and thalidomide. Antrectomy (surgical management) can also be done [7].

A case report by Gourineni et.al [8] presents a case of a 57 year old male with a known diagnosis of limited scleroderma with restrictive lung disease, presented to Emergency Department with shortness of breath and dizzy spells of few days duration. He denied any abdominal pain, nausea, vomiting or hematemesis. His vital signs were stable. Blood count revealed a hematocrit of 17.9% and MCV of 77.3 fL. An Upper Gastrointestinal Endoscopy revealed longitudinal rows of flat, reddish stripes radiating from pylorus into antrum with intervening normal mucosa suggestive of GAVE. Argon Plasma Coagulation (APC) was used to ablate the lesions. After APC, his hemoglobin remained stable and he was discharged home.

Another case report by L. Fortuna et.al [9] depicts the case of a 70 year old man with a history of ischemic heart disease, congestive heart failure, diabetes, dyslipidemia, pulmonary hypertension, chronic kidney injury and atrial fibrillation who was admitted to the urgency department for severe asthenia with abdominal pain. A few weeks before he underwent gastroscopy, colonoscopy and video-capsule endoscopy for indeterminate GI bleeding with anemia. An urgent upper endoscopic examination showed antral hyperemic streaks and vascular ectasias extending from the pyloric ring to the gastric body, together with signs of recent bleeding. Histological results of biopsies taken during the gastroscopy demonstrated the pathognomonic features of GAVE: hyperplastic foveolar gastric epithelium, fibrohyalinosis, thrombosis in venules and spindle cell proliferation. A progressive coagulation of the mucosal vascular network was carried out with an APC probe. The patient tolerated this procedure well and on the fourth postoperative day he was discharged.

In our case, the finding which favored the diagnosis of GAVE was the endoscopic examination and the patient was treated as per the standard treatment guidelines with Argon Plasma Coagulation, antibiotics, synthetic vasopressin analogues, liver protectants and with blood transfusion. Since GAVE is a rare condition, it is important to take special attention and care by the health care providers for treating the patients and also to take an appropriate critical approach in evaluating risks and harms.

IV. CONCLUSION

Gastric Antral Vascular Ectasia, also known as “Watermelon Stomach”, is a condition in which the blood vessels in the lining of the stomach become fragile and become prone to rupture and bleeding. Argon Plasma Coagulation has been carried out widely in current scenario. The procedure is relatively safe and easy with minimal risks which provide instant results. Experienced endoscopists and gastroenterology physicians can provide effective management for GAVE with improved patient compliance and adherence.

CONFLICT OF INTEREST

The author declares no conflict of interest.

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ABHISHEK S KRISHNA, et. al. "Gastric Antral Vascular Ectasia (Watermelon Stomach) – A Cryptic and Often Disdained Cause of Gastrointestinal Bleeding In the Elderly- A Case Report." *IOSR Journal of Pharmacy (IOSRPHR)*, 13(04), 2023, pp. 11-14.