Gastric Antral Vascular Ectasia (GAVE): An Overlooked Diagnosis

Sir,

Gastric Antral Vascular Ectasia (GAVE), usually manifests as iron-deficiency anemia associated with occult blood loss. GAVE has now evolved into a distinct clinical entity with respect to its varying presentation, typical endoscopic appearance, and distinct management.

A woman, aged 65 years, known case of adult polycystic kidney disease, chronic renal failure and essential hypertension, presented with a history of repeated melena for 2 days. Past medical history was significant for Ischemic Heart Disease (IHD). Angioplasty and stent placement were performed 5 years ago for acute myocardial infarction. The patient was also receiving treatment with amlodipine, metoprolol and fosinipril for her hypertension and IHD. Regular hemodialysis was being performed twice a week.

On examination, vital signs showed a temperature of 96.8°F, pulse 88 beats/minute, respiratory rate 16 breaths/ minute, and blood pressure 170/90 mmHg. She was a pale looking female, who was anicteric, Jugular Venous Pressure (JVP) not raised and no pedal edema was observed. The chest was clear with normal vesicular breathing and abdomen was soft and non-tender. Hematology revealed a hemoglobin level of 9.0 gm/dL, with red cell morphology suggestive of normochromic and normocytic anemia. Platelet count was at 142 x 10^9/L. Other investigations revealed a creatinine level of 3.2 mg/dl, sodium 136 mmol/L, potassium 3.9 mmol/L; albumin 2.7 g/dl, Alanine Aminotransferase (ALT) 16 IU/L; International Normalized Ratio (INR) of 0.99. Virology was unremarkable with negative hepatitis B surface antigen (HBsAg) and anti-hepatitis C antibodies (AntiHCV). On echocardiography, ejection fraction was found to be 50%.

An esophagogastroduodenoscopy (EGD) was performed, which showed areas of hyperemic streaks comprising of vascular ectasia with oozing of blood alternating with normal appearing mucosa in the antrum and adjacent body giving the appearance of “watermelon stomach”. Argon Plasma Coagulation (APC) was successfully applied endoscopically to treat the bleeding sites. Three sessions of APC were performed with each about 3 weeks apart. As the transferrin saturation was found to be low (15%), iron sucrose was administered intra-venously to the patient along with oral folic acid supplements in an attempt to correct the anemia which was corrected to hemoglobin level of 11 gm/dl along with patient's well being.

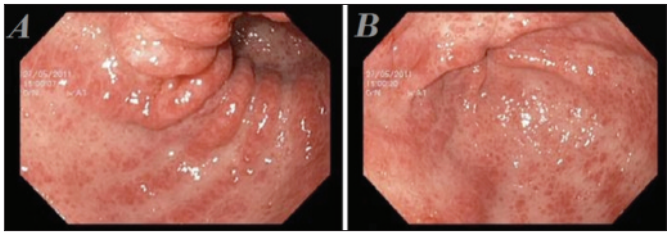

Figure 1 (A,B): Endoscopic appearance of gastric antral vascular ectasia (GAVE), showing typical linear (watermelon) pattern of involvement of gastric antrum.

GAVE is an infrequent but often a serious cause of UGIB that particularly affects elderly population with an average age at diagnosis 73 years for females and 68 years for males.[1] The annual incidence of non-variceal UGIB requiring hospitalization for management is 40 - 150 cases per 100,000 people with a mortality rate of about 7 - 14%.[2] GAVE accounts for 4% of non-variceal upper gastrointestinal blood loss.[1]

GAVE has been found to be associated with diversified medical conditions. Liver cirrhosis and connective tissue diseases have been most commonly related to GAVE.[1] Seventy percent (70%) cases of GAVE occur without cirrhosis.

Literature also reports cases of GAVE which have been found associated with essential hypertension, Chronic Kidney Failure (CKF) and Bone Marrow Transplantation (BMT).[1,3,4] This case further strengthens the association of GAVE with essential hypertension and CKF.

Elderly patients presenting with chronic anemia and/or UGIB and who are also diagnosed with any of the above mentioned medical conditions, should be endoscopically investigated for GAVE.

Though the Baveno classification[5] of Portal Hypertensive Gastropathy (PHG) has included GAVE, it should be distinguished from mosaic pattern and red marking of PHG on endoscopy. PHG involves fundus and adjacent corpus more and responds to reduction in portal pressures while GAVE particularly involves antrum of the stomach.[1,3,5]

The treatment options for GAVE include, medical, endoscopic and surgical choices.[1] The surgical option (antrectomy) and medical therapies have not been much appreciated.[1] To date, endoscopic procedures for the conservative management of the GAVE have turned out to be the most efficacious.[3] Argon Plasma Coagulation (APC) is one of the most favorable treatment options available.[1,3] and is considered to be the first-line therapy for GAVE- related bleeding.[1,4] The other endoscopic therapeutics available include laser coagulation, cryo-therapy, endoscopic band ligation and radiofrequency ablation have shown promising results but need further trials before widely implemented in clinical practice.[1,2,4]

Few studies have also demonstrated the superiority of endoscopic band ligation over APC for the treatment of GAVE in terms of improvement in hemoglobin levels and lower rate of recurrence and requirement for further treatment.[6] Lacking sufficient randomized trials, however, prevents generalization of these results.

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