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When the Liver Is Normal: Severe Anemia from Isolated Gastric Varices Due to Splenic Vein Atresia

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Abstract

Introduction: Isolated gastric varices (IGVs) are rare, accounting for less than 2% of gastric varices, and may occur in the absence of cirrhosis or generalized portal hypertension. Although rare, isolated gastric varices are associated with substantial morbidity and may lead to acute gastrointestinal hemorrhage, hypovolemic shock, and complications of left-sided portal hypertension. Among these, IGV1 carries a particularly high risk of bleeding. We report a rare case of severe iron deficiency anemia caused by IGV1 secondary to idiopathic splenic vein atresia.

Case presentation: A 56-year-old woman with a primary medical history of hypertension, diabetes mellitus, atrial fibrillation on warfarin therapy, and prior ischemic strokes presented to the ED with a presyncope episode. On admission, she was hypotensive with positive orthostatic vital signs. Laboratory examination was significant for hemoglobin of 11.3 g/dL. A transthoracic echocardiogram demonstrated severe mitral stenosis (mitral valve area 0.7 cm^2, mean gradient 17 mmHg) with normal ejection fraction.

During overnight admission, hemoglobin decreased to 6.4 g/dL, requiring transfusion of 2 units of packed red blood cells. Iron studies confirmed iron deficiency anemia (serum iron 28 µg/dL, transferrin saturation 7%). Gastroenterology was consulted, and esophagogastroduodenoscopy revealed isolated gastric fundal varices (IGV1) without stigmata of recent bleeding. Colonoscopy showed a benign colonic polyp. Computed tomography revealed normal liver morphology, normal spleen, an atretic splenic vein, and dilated short gastric veins, consistent with left-sided portal hypertension due to idiopathic splenic vein atresia.

Discussion: Isolated gastric varices are rare (<2% of gastric varices) and may arise in the absence of portal hypertension. Among these, IGV1 has the highest bleeding risk, with a bleeding rate of approximately 78%, compared with 9% for IGV2. This case report emphasizes the importance of considering IGVs in unexplained iron-deficiency anemia, even in the absence of overt GI bleeding. Early recognition is important due to the high morbidity associated with IGV hemorrhage and the need for different management strategies. In conclusion, left-sided portal hypertension should be considered in the differential when liver imaging is normal and varices are present.