

Title: Zieve's Syndrome: A Zebra or an Underrecognized Hemolytic Anemia

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Introduction:

Zieve's syndrome is a complication of alcohol-induced liver injury that presents with the clinical triad of jaundice, hyperlipidemia, and hemolytic anemia. The syndrome is underreported in patients with alcohol use disorder and is not readily recognized in patient care due to low awareness of the syndrome in the medical field.

Case Description:

A 50-year-old male with alcoholic cirrhosis complicated by esophageal varices and recurrent ascites presented with complaints of acute shortness of breath. The patient also reported hematemesis, hallucinations, and worsening fatigue. Initial examination revealed acute alcohol intoxication, tachycardia, abdominal distention with a positive fluid wave, jaundice, scleral icterus, and peripheral edema. Initial workup was significant for leukocytosis and anemia. During the hospital course, the patient developed melena associated with worsening anemia prompting further investigation into the source of blood loss. CXR was negative for significant fluid accumulation in the pleural cavity. EGD and previous colonoscopy were negative for GI blood loss. Peritoneal fluid analysis revealed little blood loss with a SAAG indicative of portal hypertension. Subsequent workup revealed hemolytic anemia with low haptoglobin and fibrinogen and elevated LDH and reticulocyte count. Immune-mediated hemolysis was ruled out with negative direct antiglobulin tests (DAT) for IgG and complement. Peripheral smear indicated microangiopathic hemolytic anemia. After no clear source of hemolysis was identified, further workup for Zieve's syndrome including a lipid panel and a vitamin E level was completed. Supportive care measures with blood transfusions along with symptom control was given, resulting in intermittent improvement; however, by discharge, the patient was transitioned to comfort care with hospice.

Discussion:

Though much of the clinical and laboratory findings hinted towards GI blood loss as the cause of this patient's anemia, it is important to consider Zieve's syndrome as a cause of hemolytic anemia in patients with alcohol use disorder. Due to low awareness about this syndrome in the medical community, it is not often considered as a differential diagnosis though the workup for this syndrome is easily incorporated into an anemia workup. Early consideration may lead to an earlier diagnosis and more efficient management. With more awareness of this syndrome and making the clinical diagnosis, there is likely to be improvement in the future management of this syndrome and the research surrounding pathophysiology and treatment.