

Zieve's Syndrome: A Case of Hemolytic Anemia in the Setting of Alcoholic Liver Disease

Jesus Salas Noain, M.D.¹, Parth Desai, D.O.¹, John Altomare, M.D.¹.

¹. Tower health, West Reading, PA

INTRODUCTION: Zieve's syndrome is a rare condition which typically manifests with hemolytic anemia, hyperlipidemia, jaundice in the setting of alcohol-induced liver injury. This is distinct from alcoholic hepatitis which may present simultaneously or develop later.

CASE REPORT: 42-year-old man with a history of alcohol abuse presented to the emergency department for evaluation of 7 days of fatigue and jaundice in the setting of heavy alcohol use. He was noted to have a normocytic anemia with hemoglobin of 5.6 g/dl, INR of 3.0, total bilirubin of 26.2 mg/dl, AST of 65, ALT of 23 IU/L. Lipids were normal. US liver and Doppler US revealed heterogenous liver with biphasic flow through majority of the veins consistent with portal hypertension. Patient denied recent use of new medications or herbal supplements.

Prophylactic antibiotics for suspected gastrointestinal bleeding were started. He underwent EGD which revealed trace esophageal varices and diffuse gastropathy without active bleeding.

A peripheral blood smear showed spur cells, but no spherocytes or schistocytes consistent with Zieve's syndrome. Direct and indirect Coombs tests were negative, low haptoglobin levels with elevated serum LDH. Blood cultures were negative. In view of evidence of hemolysis and lack of infectious source a diagnosis of Zieve's syndrome was made and patient treated with supportive care and blood transfusions as needed.

DISCUSSION: Hyperlipidemia in Zieve's results from cholestasis and hemolysis induced by alcohol liver injury, but was not present in our case. It is postulated that vitamin E deficiency secondary to alcohol use can result in pyruvate kinase instability leading to hemolytic anemia. It is important to recognize that Zieve's can mimic or present concurrently with alcoholic hepatitis as both conditions present with anemia, jaundice, and alcohol use. An important distinction is the presence of hemolytic anemia in the former. Management is supportive.

ZIEVE'S SYNDROME	ALCOHOLIC HEPATITIS
<ul style="list-style-type: none">• Hemolytic anemia• Negative Coombs test• Hyperlipidemia• Cholestasis	<ul style="list-style-type: none">• AST/ALT > 1.5 and both values <400 IU/L• Serum total bilirubin > 3 mg/dl• No hemolytic anemia or hyperlipidemia