

CLINICAL VIGNETTE

Pancreatitis Caused by Hypertriglyceridemia

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Case Presentation

A 51-year-old male with hyperlipidemia and hypertension presented to the emergency department (ED) with acute epigastric abdominal pain. His symptoms began the day prior to presentation with onset of severe abdominal pain, nausea, and vomiting. He was unable to tolerate oral intake but denied fevers, chills, hematemesis, dysphagia, odynophagia, diarrhea, constipation, hematochezia, and sick contacts. He acknowledged five drinks of alcohol a few days prior to presentation, without daily use.

In the ED, physical exam was notable for tenderness to palpation in the epigastric region. Labs included elevated triglycerides of 1120 and lipase of 1080 u/l (>3x the upper limit of normal). Computerized tomography (CT) scan of the abdomen and pelvis showed pancreatic inflammation suggestive of pancreatitis. He was kept NPO, given IV fluids, narcotics for pain management, and placed on an insulin drip with glucose supplementation. The patient's condition improved with dramatic drop in triglycerides to <500 mg/dL (5.6 mmol/L). He was advised to avoid heavy alcohol use, start a lipid lowering medication and follow-up for further evaluation of a lipoprotein metabolism disorder.

Discussion

There are multiple causes of pancreatitis and the evaluation for the precise etiology is important for management and prevention of future episodes. Hypertriglyceridemia accounts for 1% to 35% of all cases of acute pancreatitis.^{1,2}

The diagnosis of hypertriglyceridemia-induced pancreatitis is made when a patient presents with pancreatitis and an associated serum triglyceride levels of >500 mg/dL (5.6 mmol/L).^{3,4} The risk of developing acute pancreatitis is approximately 5% with triglycerides >1000 mg/dL (11.2 mmol/L) and 10% to 20% with triglycerides >2000 mg/dL (22.6 mmol/L).⁵

Disorders of lipoprotein metabolism are associated with hypertriglyceridemia-induced pancreatitis. Familial dyslipidemias are associated with significant elevation of triglycerides and can account for their high risk of acute pancreatitis at a young age. These patients' acute pancreatitis may progress to recurrent

pancreatitis and chronic pancreatitis.⁶ Familial chylomicronemia often presents in infancy.

There are other causes of hypertriglyceridemia that can lead to acute pancreatitis. These include poorly controlled type 1 and 2 diabetes mellitus and diabetic ketoacidosis. In addition, various medications such as estrogen, selective estrogen receptor modulator, clomiphene, protease inhibitors, antiretroviral agents, propofol, olanzapine, mirtazapine, retinoids, thiazide diuretics, and beta-blockers can cause hypertriglyceridemia-induced pancreatitis.⁶

Physical examination findings suggestive of hypertriglyceridemia include xanthomas, hepatosplenomegaly from fatty infiltration, and lipemia retinalis.^{7,8}

Initial management of patients with hypertriglyceridemia-induced pancreatitis includes treatment of acute pancreatitis with fluid resuscitation, bowel rest and pain control. Low fat diet is recommended when patients are ready to eat. Review of and discontinuing medications that can increase triglycerides is also important. The goal is to reduce serum triglyceride levels to <500 mg/dL (5.6 mmol/L).

Plasmapheresis can be considered in patients who present with severe pancreatitis. This includes serum triglyceride levels >1000 mg/dL and features of hypocalcemia, lactic acidosis, worsening systemic response, organ dysfunction, and/or multi-organ failure.

When plasmapheresis is unavailable or is not tolerated in milder cases, an insulin drip with glucose supplementation can be used.

Once triglyceride levels are <500 mg/dL (5.6 mmol/L), patients with hypertriglyceridemia-induced pancreatitis may require long-term pharmacologic therapy and dietary modifications to prevent hypertriglyceridemia. Oral gemfibrozil 600 mg twice daily is commonly used, and patients should follow a fat and carbohydrate restricted diet. Any medications that raise serum triglyceride levels should be discontinued, if possible, and strict glycemic control is recommended for patients with diabetes.

Hypertriglyceridemia-induced pancreatitis can be an overlooked cause of pancreatitis. A high clinical suspicion can lead to early diagnosis and treatment with reduced morbidity and mortality.

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