A Severe Case of Hypertriglyceridemia in Alcoholic Hepatitis

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CASE DESCRIPTION

A 53-year-old man with a past medical history of hypertension and alcohol abuse with prior episodes of alcoholic hepatitis presented to the hospital with generalized weakness. He was in his usual state of health until 4 days prior to admission when he began to develop generalized weakness, nausea, and vomiting. Notably, he had had multiple prior admissions with similar symptoms attributed to hyponatremia. He endorsed drinking a few beers daily but denied any other drug use. Review of systems was otherwise negative.

On physical exam he was comfortable appearing and was in no acute distress. Vital signs were within normal limits. Heart and lung sounds were normal, abdomen was soft and nontender, and he had no peripheral edema. He did have scleral icterus, but no jaundice or pruritus. Initial lab testing yielded a high volume of milky white serum (Figure 1), which could not be run on the hospital’s lab equipment. The blood work was sent to another facility with the appropriate centrifuge.

His admission labs were significant for a sodium of 110 mmol/L and a triglyceride level of 2014 mg/dL, which during the admission peaked at 3025 mg/dL. His liver function panel was notable for a total bilirubin level of 6.3 mg/dL, AST 174 IU/L, ALT 81 IU/L, and ALP 910 IU/L.

Following a diagnosis of hypertriglyceridemia, the patient was admitted to the ICU and treated with an insulin drip, high dose statin, niacin, and omega-3 acids (Lovaza). His triglyceride level upon discharge was 224 mg/dL. His hyponatremia (which was present on admission despite correction for triglycerides) improved with fluids. GI was consulted for his abnormal liver function tests. He underwent MRCP which was normal, and immune/viral serologies were also within normal limits. The ultimate cause of all of his lab abnormalities was thought to be alcohol use and alcoholic hepatitis. His labs were normal at his follow up appointment two weeks after discharge.

Figure 1. Initial blood samples drawn from patient yielded milky white serum. Samples required send out to hospital with appropriate centrifuge for isolation of serum.
DISCUSSION

Normal triglyceride levels are typically in the <150mg/dL range, and in cases of hypertriglyceridemia levels typically remain <1000 mg/dL. Untreated, hypertriglyceridemia can cause coronary atherosclerosis and acute pancreatitis, which can be a medical emergency. In severe cases, plasmapheresis may be employed to rapidly decrease serum triglyceride levels and reduce organ damage. Initial workup of patients with hypertriglyceridemia may be delayed as a high level of lipids in the plasma (which appear as a characteristic milky white serum) interferes with the analysis of common lab tests, often requiring ultracentrifugation for isolation of serum. In this case, the patient presented with a triglyceride level >2000 mg/dL however in the absence of severe sequelae such as acute pancreatitis the typical approach of insulin, statins, niacin, and omega-3 fatty acids was employed instead. This patient’s hypertriglyceridemia was likely caused by severe alcohol abuse, as high levels of alcohol both increase triglyceride production and decrease levels of lipolysis.

REFERENCES