Clinical picture

Abdominal pain and milky white serum

A 40-year-old Caucasian man presented with intractable abdominal pain and nausea for 2 days. The epigastric pain was sharp, insidious in onset and radiated to the right upper quadrant. He reported nausea but no vomitings or changes in bowel movements. He denied any fever or chills and rigors. He denied any similar episodes in the past. He denied any alcohol use in the past 1 week. He denied using any over-the-counter medications. He had non-insulin-dependent diabetes and dyslipidemia for the last 5 years. He was non-adherent to medications. The patient chewed tobacco and drank two to three cans of beer in 1 month. His mother had diabetes.

Abdominal examination showed tenderness in epigastrium. There was no guarding and rigidity. Examination of other systems was unremarkable. The laboratory findings were significant for elevated blood sugar 19 mmol/l, serum amylase 109 U/l (30–115 U/l), serum lipase 117 U/l (0–58 U/l). Liver function tests were unremarkable. A computed tomogram (CT) of the abdomen showed findings suggestive of mild pancreatitis (Figure 1). An ultrasound of the abdomen showed findings of pancreatitis and excluded any gallstones. The laboratory reported that serum sample was milky white indicating the possibility of high triglycerides (Figure 2). The lipid profile showed total cholesterol 19 mmol/l (2.5–5 mmol/l), triglycerides 30 mmol/l (0–1.7 mmol/l) and High-Density Lipoprotein (HDL) 1 mmol/l (1–2.2 mmol/l); Low-Density Lipoprotein (LDL) levels could not be assessed due to high triglyceride levels. Glycated hemoglobin was elevated at 11.6.

His abdominal pain improved with fasting, intravenous fluids and intravenous morphine. He was discharged home without any complications on fenofibrate for elevated triglycerides and insulin for diabetes.

Hypertriglyceridemia causes acute pancreatitis in 1–4% of the patients.1 Chylomicrons occlude the capillaries and cause local ischemia in the pancreas in patients with triglyceride levels >20 mmol/l. The

Figure 1. CT of the abdomen showing acute pancreatitis.

Figure 2. Milky white serum indicating elevated triglycerides.

© The Author 2012. Published by Oxford University Press on behalf of the Association of Physicians. All rights reserved. For Permissions, please email: journals.permissions@oup.com
Pancreatic lipases catalyze chylomicrons into free fatty acids and cause cytotoxic injury resulting in acute pancreatitis. Hereditary hyperlipidemia disorders cause such elevation in triglycerides. Secondary causes like diabetes, alcohol use, obesity, fatty foods, pregnancy, estrogen, hypothyroidism and nephrotic syndrome may also contribute to hypertriglyceridemia. Serum amylase levels may be falsely lower in such patients due to hypertriglyceridemia. Serum lipase levels and urinary amylase levels are usually elevated. CT scan of the abdomen may show findings suggestive of acute pancreatitis.

The treatment of triglyceride pancreatitis is similar to the treatment of pancreatitis due to other causes, and includes pain control, cautious introduction of diet and treatment of fluid and electrolyte imbalances. Though there is lack of good quality evidence, plasmapheresis and intravenous heparin have been used in the treatment of triglyceride pancreatitis.

Photographs and text from: J. Talluri, S. Besur and S. K. Talluri, Department of Internal Medicine, McLaren Regional Medical Center, 401 S Ballenger Hwy, Flint, MI 48442, USA. email: talluri1@msu.edu

Conflict of interest: None declared.

References