

Chyle Improved with Plasma Exchange in Hypertriglyceridemic Pancreatitis

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Description

A 37-year-old obese and diabetic man presented with post-prandial, diffuse, and continuous epigastric pain, which started acutely 90 min after consuming an egg sandwich. Physical findings were remarkable for tachycardia (129 beats/min), fever (37.7°C), and diffuse abdominal rebound tenderness.

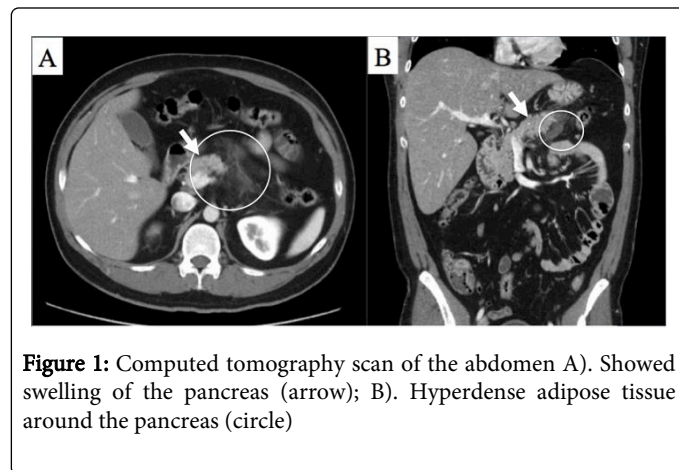


Figure 1: Computed tomography scan of the abdomen A). Showed swelling of the pancreas (arrow); B). Hyperdense adipose tissue around the pancreas (circle)

Laboratory data revealed leukocytosis (19,970/mm³), hyponatremia (127 mEq/L), hyperglycemia (241 mg/dl) associated with previously undiagnosed diabetes (HbA1c 12.2%), elevated serum lactate dehydrogenase (566 IU/L), and elevated C-reactive protein (8.65 mg/dL). A computed tomography scan of the abdomen (Figure 1A and 1B) showed swelling of the pancreas (arrow) with hyperdense adipose tissue around the pancreas (circle). Although serum amylase was not elevated (16 mg/dL), we diagnosed the patient with acute pancreatitis based on his history and other objective findings. The blood specimen was remarkably chylous (Figure 2A) and triglycerides were 3,500 mg/dL. We diagnosed the patient with hypertriglyceridemic pancreatitis and performed plasma exchange using the following equipment: blood purifier, ACH-10 (Asahi KASEI); replacing fluid, 2.5 L of 4.4% albumin; polyethylene plasma separator, Plasmaflo OP-08 (Asahi KASEI); blood flow rate, 100 ml/h. After the procedure, triglycerides fell to 649 mg/dL and chyle was grossly improved (Figure 2B). The patient's symptoms subsided and triglycerides spontaneously fell to 198 mg/dL. Subsequent management for acute pancreatitis was uneventful. He was also treated for diabetes and dyslipidemia with nutritional counseling and metformin 500 mg bid and bezafibrate 200

mg bid. He was discharged after a one-week hospitalization and treated in our outpatient clinic. Extreme hypertriglyceridemia (generally >1000 mg/dl) is thought to be the cause of acute pancreatitis because triglycerides are metabolized to free fat acid by pancreatic lipase, which causes lipotoxicity to the pancreatic tissue [1]. Despite the lack of high-quality evidence, plasma exchange is often performed and is reportedly effective for hypertriglyceridemic pancreatitis according to the theory described above [1,2]. These impressive pictures of the blood samples suggest the rapid efficacy in lowering extremely high triglycerides.

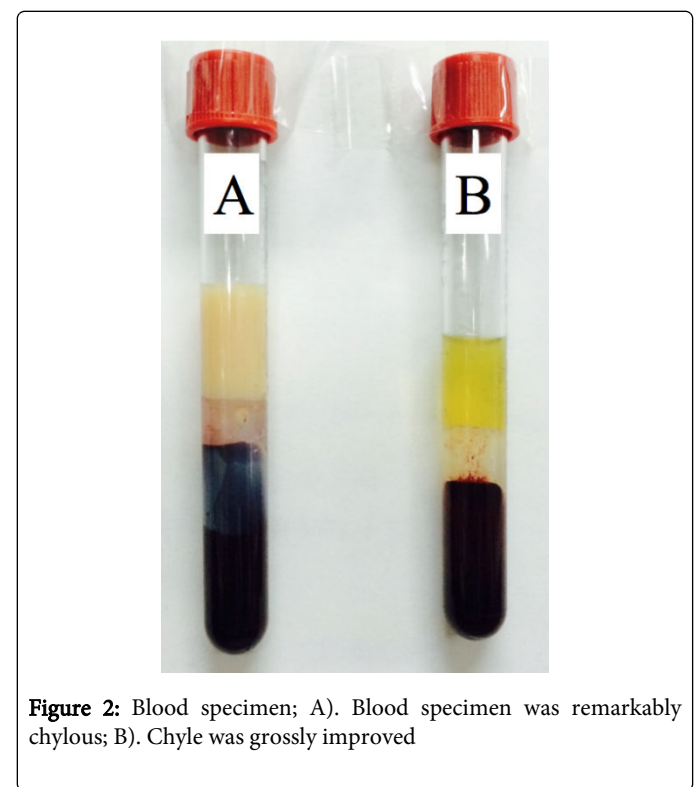


Figure 2: Blood specimen; A). Blood specimen was remarkably chylous; B). Chyle was grossly improved

References

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