34 year old Male with Pancreatitis

Colleen Flynn, MD

April 5, 2012

HPI

- 34 yo M with no past medical history admitted with nausea, vomiting, and abdominal pain x 1 day.
- Imaging and labs consistent with pancreatitis.
- Labs also revealed a blood glucose >300 and triglycerides >2000.
- Endocrine consulted for new-onset diabetes and hypertriglyceridemia.

Past Medical History

Cholecystectomy 2010

Family History

M: DM2 dx age 45

No lipid abnormalities

Medications

None

NKDA

Social History

Studying to be a Franciscan friar

No tobacco, rare EtOH, no illicits

THE UNIVERSITY OF CHICAGO MEDICINE

Physical Exam

VS: **T:** 101.3 **BP:** 138/72 **HR:** 143 **RR:** 20 **Ht:** 188 cm **Wt:** 117 kg **BMI:** 33

Gen: Well appearing male in mild discomfort

HEENT: anicteric sclera

Neck: +acanthosis nigricans

Chest: CTAB

CV: tachycardia, +S1/S2, no LE edema

Abd: +BS, obese, moderate tenderness to palpation in epigastric region, no hepatosplenomegaly

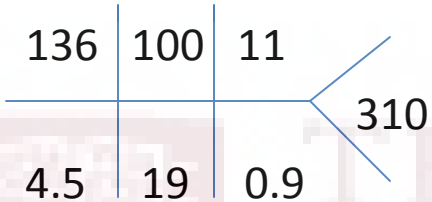
Skin: warm/dry, no jaundice, no eruptive xanthomas

Lymph: no lymphadenopathy

ROS

- +Fever, poor appetite
- No change in vision
- No difficulty breathing
- No chest pain/palpitations
- +Abdominal pain/nausea/vomiting
- +Polyuria/Polydypsia

Labs



Ca: 7.0

Phos: 2.9

Beta-hydroxybutyrate: 0.99

Lipase: >3300

CK: 48

Lactic acid: 1.8

AST: 60

ALT: 34

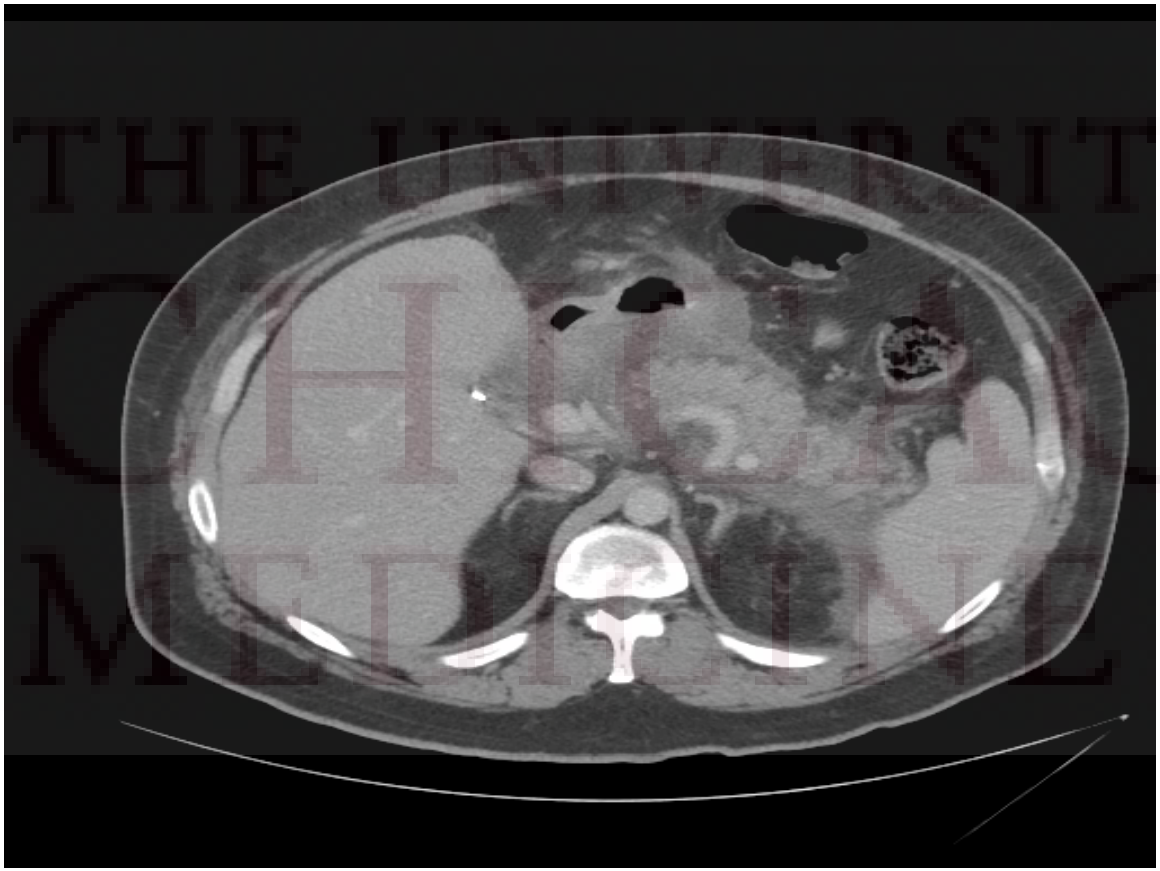
HgbA1c: 10.5
TSH: 0.75

Total cholesterol: 364
HDL: 23
LDL: unable
TG: 2038

WBC: 17.5
Hgb: 13.6
Plt: 303

Blood Cx: negative
Urine Cx: negative

CT



Diffuse edematous enlargement of pancreas with extensive peripancreatic stranding compatible with pancreatitis.

Management

THE UNIVERSITY OF CHICAGO MEDICINE

Management

- NPO
- Insulin drip
- Gemfibrozil
- DM education, low carbohydrate diet

THE UNIVERSITY OF CHICAGO MEDICINE

Hospital Course

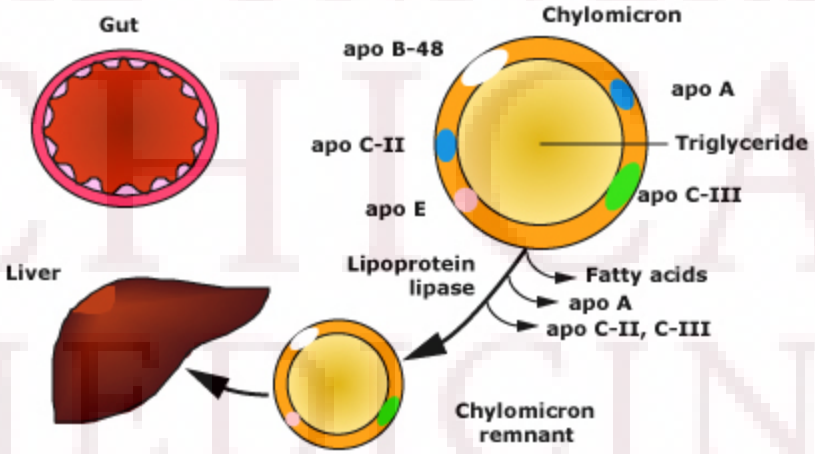
Started clear diet

	Day 1	Day 2	Day 3	Day 4	6 weeks
Triglyceride level (mg/dL)	2038	883	558	310	110

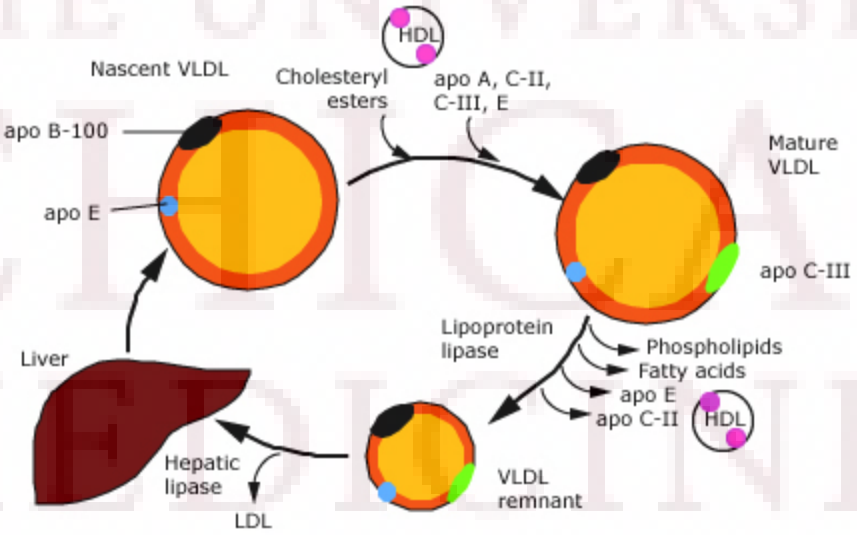
Blood glucose improved and patient transitioned to Lantus/Novolog.

Started on diet when still using a large amount of dilaudid.

Chylomicron metabolism



VLDL Metabolism



Risk of Pancreatitis with Hypertriglyceridemia

- Hypertriglyceridemia is the number 3 cause of pancreatitis after EtOH and gallstones
- A common cause of hypertriglyceridemia-induced pancreatitis is poorly controlled DM
- Pancreatitis does not occur if TG<500 mg/dL
- Progressive risk of pancreatitis with TG>1000 mg/dL

Rivellesse A. JCEM 2004.
Toskes PP. Gastroenterol Clin North Am 1990.

Treatment of Hypertriglyceridemia in the setting of Pancreatitis

- No professional recommendations exist regarding inpatient management for severe hypertriglyceridemia > 1000 mg/dL.
- Recommend to treat to a TG < 500 mg/dL, which can expedite clinical improvement.
- In setting of hyperglycemia, treat with IV insulin (increases lipoprotein lipase activity).
- Keep NPO until pain improves and TG<1000.
- IV heparin and plasma exchange have been used in severe cases.

Tsuang W. Am J Gastroenterol 2009.
Schaefer EW. Journal of Hospital Medicine 2011.

Take Home Points

- Poorly controlled diabetes can be a cause of hypertriglyceridemia.
- Hypertriglyceride-induced pancreatitis should be treated with aggressive control of blood sugar in a patient with diabetes, along with NPO until pain resolves and TG<500.