Presentation of Illness

- 36-year-old female presented to the Emergency Department (ED) with one day of periumbilical abdominal pain radiating to her back and loose stools.
- **Past Medical History**: familial hypertriglyceridemia and prior hypertriglyceridemia induced pancreatitis
- 16 months prior, she announced to her primary care physician her intention to become pregnant, and her fenofibrate was discontinued due to concerns about teratogenicity.
- At that time, her serum triglycerides were 70 mg/dL.
- More recently, she began the IVF process with retrieval procedure two weeks prior to presentation.
- 3 days prior to this admission, she was celebrating her sister’s birthday and consumed more than 8 alcoholic beverages/day over the weekend as well as fried foods.
- In the ED, vitals were within normal limits aside from heart rate 130 bpm and BP 156/112.

Differential Diagnoses

- **Biliary**: Cholecystitis, cholelithiasis, cholangitis
- **Hepatic**: Hepatitis
- **Upper/Lower Bowel**: Colitis, diverticulitis, Mesenteric Ischemia; Appendicitis; Small bowel obstruction
- **Gastric/Pancreatic**: Esophagitis, gastritis, ulcerative disease, pancreatitis
- **Gynecologic**: Ovarian mass/torsion, ectopic pregnancy

Diagnosis

- **Diagnostics**
  - **Exam**: She was tender to palpation peri-umbilically and in the right upper quadrant. Her exam was otherwise unremarkable.
  - **Labs**:
    - Serum lipase: 1,183 U/L
    - Serum triglycerides: 3,296 mg/dL
    - WBC: 16.5 x 1000/μL
    - BUN: 10 mg/dL
    - Calcium: 10.3 mg/dL
    - Pregnancy test: Negative
  - **Imaging**: CT of the abdomen showed moderate peri-pancreatic fat stranding and fluid consistent with acute pancreatitis

Timeline

- 16 months prior to presentation, fenofibrate discontinued, serum TGs 70 mg/dL
- 2 weeks prior to presentation, IVF egg retrieval procedure
- On admission patient with massively elevated TGs and lipase and imaging consistent with acute pancreatitis
- 3 days prior to presentation, dietary indiscretion at a party
- Admitted to the ICU and managed with IV hydration and IV insulin therapy
- Discharged four days later without complication on fibrate.
- Discharge serum TGs 314

Discussion

- There are several reported cases of hyperlipidemia during pregnancy causing pancreatitis, though only 6 reported cases of IVF-induced hypertriglyceridemia.
- This is thought to result from oral estrogen therapies increasing hepatic triglyceride synthesis in addition to its inhibitory effects on lipoprotein lipase.
- Estrogen therapy can cause latent effects on lipids for up to 2 years and may increase risk of severe hypertriglyceridemia in those with an underlying predisposition to dyslipidemia as with our case.
- Of the 6 cases of IVF-related hypertriglyceridemia induced pancreatitis, suggestion of remote history of familial dyslipidemia was present in three cases.
- In our patient, risk factors for hypertriglyceridemia include familial dyslipidemia, discontinuation of fibrate therapy, and dietary predisposition. The timing of IVF therapy and retrieval may suggest an association.

Conclusions

- Internists should be aware that gynecologists recommend continuation of fibrate therapy in women at risk for severe hypertriglyceridemia who plan to become pregnant.
- Fenofibrate is an FDA pregnancy category C medication, but the benefits likely outweigh the risk.

References