SCHOOL OF PUBLIC HEALTH
UNIVERSITY of WASHINGTON

Nutrition Care of Severe Acute Pancreatitis (SAP)

Sarah Bailey, Dietetic Intern, HMC MICU

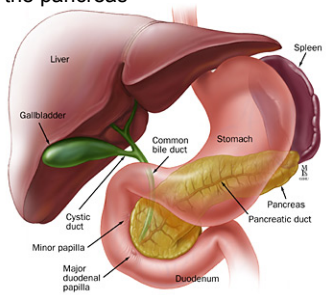
Susan McBride, Preceptor

Background

Pancreatitis is an inflammation of the pancreas

Causes of Acute Pancreatitis
1. Alcohol
2. Gallstones
3. Hypertriglyceridemia (HTG)

Symptoms: Abdominal pain, nausea, vomiting



HTG caused Acute Pancreatitis
- Progressive risk with TG >500 mg/dL
  - Risk increases further with TG >1000 mg/dL
- Etiology
  - **Primary:** Genetic disorders of lipid metabolism
  - **Secondary:**
  - Poorly controlled diabetes
    - Most common underlying cause in a case series of 70 patients
    - Lactescent serum in 45% of patients
    - Mean serum TG of 4587 +/- 3616 mg/dL
  - Alcohol
  - Pregnancy, estrogen supplementation

Acute pancreatitis is considered <u>severe</u> when…

More than one of the following occur…
•High Ranson (>3) or APACHE II (>8) score
•Local complications: necrosis, abscess, or pseudocyst
•Organ failure

Obesity and Pancreatitis	OR	95 % CI
SAP	2.9	1.8-4.6
Systemic complications	2.3	1.4-3.8
Local complications	3.8	2.4-6.6
Mortality	2.1	1.0-4.8

Assessment

63 year old intubated male transferred from OSH with SAP

Anthropometric
- Height: 185 cm
- Admit weight: 140 kg
- BMI: 40.9
- Ideal BW (IBW): 80kg

Medical History
- Type 2 Diabetes
- Hypertension
- Asthma

Biochemical: Triglycerides: 5,000 mg/dL (normal: <150mg/dL)
Medications: insulin, norepinephrine, vasopressin, dobutamine
Oral-gastric tube (OGT) output > 1L per 12 hrs
Nutrition Requirements in SAP: Similar to sepsis
•25-35 kcal/kg
•1.2-1.5 g protein/kg
•Begin early enteral support
•Feeding tube (FT) placement past the ligament of Treitz eliminates pancreatic stimulation
Estimated needs: 2691-3105kcal(1.3-1.5 x Harris Benedict BEE)*
165 g protein (1.5 g/kg)*
*Adjusting body weight for obesity (ABW=110 kg)

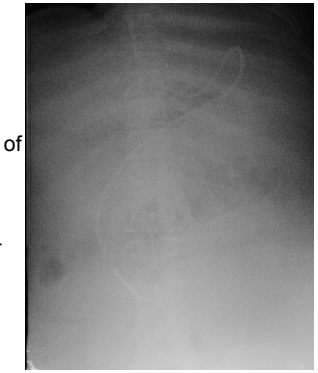
Diagnosis:
Inadequate PO intake related to intubation, as evidenced by NPO for 2 days (since admit to OSH)

Intervention

Once stable, advance FT past ligament of Treitz

Hospital Day 5: FT in 2nd portion of duodenum

Begin Vivonex @ 10mL/hr advancing to goal of 115 mL/hr
- 2760 kcal (25 kcal/kg ABW)
- 138 g protein (1.3 g/kg ABW))



Monitoring/Evaluation

Hospital Day 6: Develops Acute Kidney Injury (AKI)- Begin daily hemodialysis (HD)

Nutrition Requirements for HD:
•30-35 kcal/kg IBW for adults >60 years old
•1.2-1.3 g protein/kg IBW-may be higher for…
- Acutely ill patients
- Patients receiving HD > 3 times per week

Nutrition Prescription**:** Nepro per nephrology @ 60mL/hr + 60mL prostat q 12 hrs
- 2832 kcal (35kcal/kg IBW)
- 177 g protein (2.2 g/kg IBW or 1.6 g/kg ABW)

Hospital Day 14: Now on continuous HD (CRRT)
•>1L pale, greasy stool per day

% Calories	Nepro	Promote with Fiber
Fat	48%	25%
Carbohydrate	34%	50%
Protein	18%	25%

Nutrition Prescription: Promote with Fiber @ 115mL/hr + 30mL prostat q 12 hrs
- 2882 kcal (36 kcal/kg IBW)
- 203 g protein (2.5 g/kg IBW or 1.8 g/kg ABW)

Hospital Day 21: Stool more formed
- Metabolic cart shows AMEE= 2656 kcal/kg

Nutrition Prescription**:** Promote with Fiber @ 100mL/hr + 30mL prostat q 6 hrs
- 2640 kcal (36 kcal/kg IBW)
- 210 g protein (2.6 g/kg IBW or 1.9 g/kg ABW)

Hospital Day 28: Tracheotomy performed
- Repeat metabolic cart shows AMEE= 2673 kcal/kg