METABOLIC STRESS AND TRAUMA: A GUNSHOT WOUND

Alison Rudy
Juan Perez

- Age: 29
- Male
- Convenience store clerk, 11pm-7am
- Hispanic
- 5’10”
- 225 lbs
- BMI: 32.4, obese
- Drinks “several beers” every night
Reason for Admission

- Gunshot wound to the abdomen
- Vomiting blood
- Severe back and “stomach pain”
- Not able to answer many questions
- No allergies
- No chronic conditions
Physical Examination

- **Ventilator**
- **Temperature:** 102.6°F
- **BP** 115/65 mm Hg
- **HR** 135 bpm/normal
- **NG tube** placed
- **Edema** in lower extremities
Abdominal Examination

- Abdominal distension
- Wound VAC (Vacuum Assisted Closure) in place
- Three tubes draining peritoneal fluid
- Hypoactive BS (Bowel Sounds)
Surgery Day 1

- Exploratory laparotomy
- Gastric repair
- Liver hemorrhage control
- Proximal jejenum resection
- GI tract left in discontinuity
- Tubes placed to drain fluid from peritoneal cavity
Nutrition Consultation Day 1

- **TPN**
- Dextrose 300g/day
- Amino acids 170 g/day
- **High nutritional risk**
  - Ventilation
  - Wounds
  - Fluid/electrolyte losses
  - Altered GI function
  - Parenteral nutrition support
Medications

- Morphine
- Lorazepam
- Propofol at 35 mL/hr (maintenance of anesthesia)
- Esomeprazole
- Meropenum
- Vancomycin
Surgery Day 2

- Reestablished **bowel continuity**
- **Abdominal VAC** placed
Surgery Day 3

- Detection of anastomotic leak
- Gastrojejunostomy tube inserted
- Jejunal limb shorted to provide antegrade intraluminal drainage
- Retrograde jejunostomy tube for drainage
Day 4

- Metabolic cart measurement
  - REE=3657 kcal/day
- Blood glucose 107-185
  - Insulin drip protocol
- TPN--dextrose increased to 350 g, amino acids increased to 180 g
Continued Care

- **Day 7**
  - Abdominal washout
  - J-tube placement
  - VAC change

- **Day 10**
  - Propofol discontinued
  - Second metabolic cart:
    - REE=3765 kcal
  - IV lipids added (250 mL 3x/week)
Enteral Support

- **Day 11:**
  - Enteral support initiated
    - Crucial 1.5 kcal/mL
    - 10 ml/hr

- **Day 12:**
  - 15 mL/hr

- **Day 13:**
  - 20 mL/hr
  - Anastomotic leak
    - Decreased to 15 mL/hr for remainder of stay
References

- www3.uakron.edu/.../Parenteral%20Nutrition%20Calculations.ppt
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