Give Your Patients a FAST-HUG

ICU Clinical Pearl

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FAST-HUG

- Mnemonic device highlighting general considerations in all ICU patients
  - Feeding
  - Analgesia
  - Sedation
  - Thromboembolic prophylaxis
  - Head-of-bed elevation
  - Stress Ulcer Prophylaxis
  - Glucose control

Feeding

- Should be initiated within first 24-48 hours of admission
- Oral > enteral > parenteral
  - If the gut works, use it!
- Typically require 25-35 mg/kg day
  - Critically ill patients may require more calories
- Monitoring
  - Pre-albumin
    - Not accurate in critically ill patients
  - BUN
    - Marker of possible over-feeding

Analgesia

- Pain assessment in ICU can be difficult
  - Mechanical ventilation/ sedation
- Alternative ways to assess for pain
  - Grimacing
  - Tachycardia
  - Elevated blood pressure
- Medications for pain
  - NSAIDs
  - Acetaminophen
  - Opioids

Analgesia

- Many ICU patients require IV pain control
  - Opioids are most effective
- May be given by continuous infusion and bolus
  - Patient controlled analgesia (PCA)
- Beware side effects
  - Respiratory depression
  - Constipation
    - Tolerance does NOT develop
  - Hypotension
  - Hallucinations
  - Rash
    - Morphine

Sedation

- Mechanical ventilation often requires sedation
  - MV is uncomfortable
- Propofol most common agent used
  - Propofol Infusion Syndrome (PRIS)
    - Cardiac failure, renal failure, rhabdomyolysis
    - Hypertriglyceridemia
- Beware over sedation
  - Don’t sedate just to quiet a patient!
  - Daily sedation holiday
  - May shorten ICU LOS
Thromboembolic Prophylaxis

- Can occur between 13-31% of patients not receiving prophylaxis
  - May be higher in trauma patients
- Heparins are most often used
  - Unfractionated heparin 5000 units Q8-12 hours
  - Enoxaparin 30mg Q12 hrs or 40mg Q24 hrs
    - Renal function!
  - Dalteparin 5000 units Q24 hrs
- Heparin induced thrombocytopenia (HIT)
  - Platelets drop >50% or below absolute count <100,000
  - Occurs 5-7 days after initiation

Head-of-bed Elevation

- Bed inclined >45 degrees
- Many benefits
  - Gastroesophageal reflux
  - Lower rates of nosocomial pneumonia (HCAP/VAP)
  - Less aspiration

Stress Ulcer Prophylaxis

- Goal: Prevent stress related gastrointestinal hemorrhage
- Most ICU patients will require prophylaxis
  - Mechanical ventilation
  - Coagulation abnormalities
- Other indications
  - History of gastric ulcers
  - Multiple trauma
  - Glasgow Coma Score <10
  - Spinal cord injury

Stress Ulcer Prophylaxis

- Therapy options
  - H2RAs- adjust for CrCl <50 mL/min
    - Ranitidine 150 mg BID
    - Famotidine 20 mg BID
  - PPIs (pantoprazole, lansoprazole)
    - Pantoprazole 40 mg Qday
    - Lansoprazole 30 mg Qday
- Adverse reactions
  - CNS disturbances (H2RAs)
  - Anxiety, confusion, agitation
  - C. difficile infections (PPIs)

Glucose Control

- Many patients in ICU will have hyperglycemia
  - Mostly stress induced due to acute illness
  - Corticosteroids
  - Diuretics
- Hyperglycemia associated with adverse outcomes in ICU
  - Increased hospital and ICU lengths of stay
  - Increased risk for infections
- OLD practice
  - The tighter the better (80-110 mg/dL)

Glucose Control

- NICE trial
  - Compared ranges of glucose control
    - 81-108 mg/dL vs. <180 mg/dL
  - Mortality
    - 27.5% in intensive control group
    - 24.9% in conventional control group
    - P= 0.02
  - No difference
    - ICU or hospital LOS
    - Mechanical ventilation days
    - Renal replacement therapy
Glucose Control

- NEW practice
  - Achieve glucose levels <180 mg/dL
- Insulin
  - Most effective way to control glucose in ICU setting
  - Sliding scale
  - Effective, but more resource intensive
  - Basal insulin (glargine, detemir)
    - Use if hyperglycemic is expected to occur for many days
    - Calculate by the amount of SSI patient has been getting in 24 hrs
  - Transitioning off continuous infusion (if stable)
    - Calculate rate from past 6-8 hours X 3 (24 hrs)
    - Administer long acting insulin 2 hours before infusion is stopped

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