Management of Suspected Aspiration Guideline

BACKGROUND

Aspiration is broadly defined as the passage of oral or upper gastrointestinal tract contents through the trachea and larynx and into the lung. Aspiration events can be categorized as aspiration pneumonitis (chemical pneumonitis) or aspiration pneumonia (infectious process secondary to an aspiration event). It is recognized as an independent risk factor for subsequent development of pneumonia, acute lung injury or acute respiratory distress syndrome. Pre-hospital intubation is associated with a higher rate of aspiration than intubation in the emergency department.

RISK FACTORS

- Anatomic abnormalities of the upper gastrointestinal tract such as gastro-esophageal reflux, gastroparesis, bowel obstruction, and ileus
- Elderly and nursing home patients who have a high incidence of reflux, dysphagia, and poor oral hygiene
- Dysphagia from neurologic disorders including stroke, seizures, and head/spinal cord injuries
- Decreased level of consciousness associated with trauma, intoxication, or sedation
- Nasogastric tube placement and feeding
- Endotracheal tube intubation

DIAGNOSIS

- There is no gold standard for the diagnosis of aspiration induced lung injury.
- It is often a diagnosis of exclusion where other etiologies of hypoxia such as pulmonary edema, pulmonary embolism, or community or hospital acquired bacterial pneumonia have been ruled out.
- Aspiration pneumonitis is diagnosed by a combination of hypoxia and lung infiltrate that typically involves the dependent portions of the lungs.

TREATMENT

- Following a witnessed aspiration event, the patient should be log rolled, have the oropharyngeal cavity suctioned, and have the head of the bed raised to 45 degrees
- Nebulized bronchodilators may be administered for bronchospasm.
- Non-invasive ventilation should be avoided in the setting of a recent aspiration event.
- Intubation may be required depending on the patient's clinical status and/or need to facilitate future bronchoscopy.
- Mechanical ventilation strategies should ascribe to current standards of lung protective strategy, and gastric decompression with a nasogastric/orogastric tube should be instituted immediately following intubation.
- Initial empiric antibiotics are not recommended for aspiration pneumonitis.
- In patients with persistent leukocytosis, fever, and infiltrates 48hr following the initial aspiration event or those where pathogenic bacteria in significant amount as been identified by protected brush specimen or BAL, antibiotics are strongly recommended given the high likelihood of aspiration pneumonia.
    - Broad-spectrum antibiotics with activity against Gram-negative bacteria are

appropriate in cases of suspected aspiration pneumonia.
    - Routine use of antibiotics with anaerobic coverage is not needed unless there is evidence of severe periodontal disease, necrotizing pneumonia, or lung abscess visualized in a CT scan.
    - There is no consensus on the duration of antibiotic use for aspiration pneumonia. Studies suggest treating to clinical improvement versus standard VAP course treatment.
- Steroid administration is not recommended for the treatment of aspiration events.
- Bronchoscopy is generally recommended within 30 minutes of a known aspiration event
    - Bronchoscopy may also be beneficial in the settings of clear radiographic evidence of lobar collapse or major atelectasis or if quantitative bacteriology obtained from BAL samples can guide definite therapy or help to de-escalate or discontinue antibiotic therapy.
    - Bronchoscopy should be performed in the trauma bay as soon as possible unless the patient requires a trip to the operating room or has a readily available ICU bed understanding the limited time window of potential benefit.

PREVENTION

- Minimize the time patients are supine by maintaining head-of-bed elevation at 30-45° or use reverse Trendelenburg positioning for patients in spinal precautions
- Rapid sequence intubation for trauma patients
- Nasogastric/orogastric or gastrostomy tube decompression
- Minimize or completely discontinue sedating medications as clinically appropriate
- Frequent and thorough oral care to decrease bacterial loads

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