MOUNT SINAI CONFERENCE

Reactive Airway - Dr. Nguyen

This is your escalation approach for patients presenting with asthma:

<u>Tier I</u>

Inhaled Beta-2 Agonist

Albuterol 5mg INH q20 min x3
Ipratropium 0.5mg INH q20 min x3

Glucocorticoid (choose 1)

Methylprednisolone 1mg/kg IV (max 125mg)
Prednisone 1mg/kg PO (max 80mg)

<u>Tier II</u>

Bronchodilation

• Magnesium 2g IV over 20 min

Non-selective Beta-Agonist (choose 1)

Epinephrine 0.3-0.5mg SQ/IM q20 min x3 doses
Terbutaline 0.25mg SQ q20 min x3 doses

<u>Tier III</u>

NIPPV

• BIPAP (10 cm inspiratory pressure / 5 cm expiratory pressure)

Intubation/Delayed Sequence Intubation - DSI

Ketamine

• Partial Dissociation ~ 0.7mg/kg IV (re-dose as necessary with 0.5 mg/kg IV)

• Full Dissociation 1-2 mg/kg IV

 Rocuronium ~ 1.2 mg/kg IV (~ 100mg IV for adult)

• Initial ventilator settings (RR 10, PEEP 0, TV 6-8 ml/kg, FiO2 30% -100%) - monitor for *PTX and breath stacking*



<u>Grand Rounds</u>: Emergency Department - Crowding: High-Impact Solutions -Dr. Eric Legome

Dr. Legome, Chair of Emergency Medicine of the Mount Sinai West and Morningside Hospital's Departments of Emergency Medicine, provided an in-depth overview on ED boarding. Crowding is not only an inconvenience for patients and providers but also a welldocumented cause of morbidity and mortality. Dr. Legome stated that boarding is not just a local ED problem but a reflection of misaligned health care economics adopted by hospital systems.

He evaluated the potential causes of boarding as well as reflected on practicable and actionable solutions that need to be implemented by hospitals.

Examples of causes:

• Health system level factors:

- Lack of primary care, psychiatric, addiction care services
- Lack of access relating to insurance

Hospital factors

- Lack of leadership alignment and priority
- Lack of inpatient nursing
- Crisis fatigue

• ED factors:

• Preference of PCPs to send patients to ED for workups

RESPIRATORY



Senior small group - Drs. Leibner and Meyers

We learned 1.) How to be optimize difficult airway situations 2.) Medicine is an art full of different approaches

Case #1: Pearls for intubating burn patients?

 Soot in the airway is not an absolute indication to intubate. Consider early intubation if other symptoms such as hoarseness, respiratory distress present.

Case #2: Pearls for intubating UGIB

- Consider placing NGT to decompress stomach
- There are complications with intubating so have discussion with GI about safest route 1.) Whether to intubate in ED/ICU 2.) Or to intubate in OR with anesthesia
- If large volume hematemesis is present and hemodynamically unstable resuscitate first and then intubate

Case #3: Pearls for intubating large PE with RV strain

Consider initiating the following:

- HFNC/BIPAP with NO to act as a pulmonary vasodilator
- Epinephrine gtt at 5 mcg for RV support
- Pre-intubation A-line
- Ca+ Cl

- Laboratory, radiology, and consultant delays
- EMR time demand
- Inefficient transfer process from ED to inpatient unit

Examples of solutions:

• Health system level changes:

- Crowding needs to be acknowledge as a serious problem and as a cause of mortality and not just an "inconvenience"
- Health care financing must re-align reimbursements from current practices

• Hospital changes:

- Increasing availability of inpatient ancillary services
- Implementing post-discharge phone calls to patients
- Opening up more hallways beds and increasing hospital capacity

• ED changes

• Increasing ED staffing specifically case mangers to assist with follow up

Approach to shortness of breath - Dr. Cara "US>CXR" Brown

Dr. Brown gave a fantastic lecture on showcasing the superiority of using US>CXR in diagnosing PTX, pneumonia, and pulmonary edema. Think of a CXR as an iPhone 4 and an Ultrasound as an iPhone 13. This was a high yield visual lecture so will try to only cover the big points in this summary.

What is difference between A and B lines?

- A- line = Air (horizontal parallel to pleura)
- B-line = Not Air (vertical perpendicular to pleura)
 - To diagnose pulmonary edema = You must have 3 or more Blines in 2 more lung fields
 - If you have B-lines, you cannot have a PTX in that lung view

How do I diagnose a Pneumothorax (PTX)?

- Use linear probe and look for lung sliding. Don't forget about "M-mode" and if you see a barcode sign it is concerning for PTX
- Look for a "lung point"
- If you don't see lung sliding think of other differentials such as 1.) R-main stem intubation 2.) Pulmonary bleb 3.) Pneumothorax

How do I diagnose a Pneumonia?

• Use curvilinear probe and check the anterior/lateral/posterior zones



Junior small group -Drs. Rozehnal and Nguyen

Dr. Rozehnal and Dr. Nguyen provided some pearls for juniors on intubating

1.) When inserting your blade, start slowly and identify your anatomy before advancing your blade

2.) If you have trouble identifying your anatomy, back out with your blade and re-orient yourself with landmarks

Focused Case Review -Dr. LeBuhn

Dr. LeBuhn gave an amazing case review presentation. I will not be disclosing any information from the lecture. But great job Dr. LeBuhn!

- Look for the following signs:
 - <u>Air bronchogram</u>: hyperechoic lines and flecks that move with respiration
 - <u>Spine Sign</u>: visualization of the vertebral bodies in the thoracic cavity above the diaphragm
 - Plankton Sign: floating debris in a pleural effusion

Bronchiolitis - Dr. Taryn Webb

Dr. Webb gave a fantastic and in-depth presentation on the management of Bronchiolitis. It is defined as a seasonal viral illness characterized by fever, nasal discharge with inspiratory crackles/ expiratory wheezes of the lower respiratory tract in patients < 2 years old

What is the pathophysiology of Bronchiolitis?

• Inflamed tissue causing mucus building and respiratory distress

Risk factors for a severe infection?

- Age <1 year old, especially <6 weeks
- Ex-premature
- Congenital heart and neurological condition
- Pulmonary Hypertension
- Chronic respiratory distress
- Cystic Fibrosis
- Immunodeficiency
- Previous severe bronchiolitis requiring PICU admission

Concerning physical exam findings?

• Head bobbing, subcostal/intercostal retractions, belly breathing

Management Pearls

- Bronchiolitis is a clinical diagnosis
- Pay attention to risk factors
- You don't need labs or imaging
- Don't give albuterol, steroids, or antibiotics
- You probably don't need hypertonic saline unless hospitalized
- Provide antipyretic to reduce fever
- Consider IVF and supplemental O2 as needed (If patient is desating <90% for >30 seconds despite suctioning)
- Consider HFNC 1-2 L/kg which provides warm, humidified air