Peds Anesthesia: A Bedtime Story - Part II

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I have no financial conflicts of interest to disclose.
Goals

- Discuss medication options for managing the pediatric airway.
- Discuss technique options for managing the pediatric airway.
Anticholinergics

Atropine

Glycopyrrolate
Induction/Sedation Agents

- Ketamine
- Etomidate
- Propofol
- Midazolam
- Fentanyl
- Dexmedetomidine
Muscle Relaxants

Succinylcholine

Rocuronium
Goals

- Discuss medication options for managing the pediatric airway.
- **Discuss technique options for managing the pediatric airway.**
Equipment
Equipment

Tube Size

\[ \text{age}/4 + 4 (-0.5) \]

Pinky Finger

Breslow Tape

Tube Depth

3 x tube size
Equipment

- Functioning laryngoscope blades
- Suction (two)
- Medications
- Ambu/Oxygen/Ventilator
- Tracheal tubes
- Stylets
- Functioning monitors
Case Presentation

Mother drives 5 month old ex-premie to ER because of irritability and difficulty breathing
Case Presentation

S/P hernia surgery 4 days ago that was uneventful

Discharged home the day before presentation

Baby is cyanotic
Case Presentation

How would you proceed?
Subglottic Stenosis

19 y/o presented to ER at night
- Respiratory distress
- Saturation in 80’s
- First visit to your hospital
Case Presentation

- ER called Anesthesiologist on call
- Pt. given albuterol, epi, bipap
- Picu attending contacted
MPS
Mucopolysaccharidoses

MPS are a group of chronic progressive lysosomal storage diseases caused by deficiencies of enzymes required for the catabolism of glycosaminoglycans (GAGs).
**Mucopolysaccharidoses (MPS)**

<table>
<thead>
<tr>
<th>SYNDROME</th>
<th>CLINICAL MANIFESTATIONS</th>
<th>CARDIOVASCULAR</th>
<th>PULMONARY</th>
<th>CNS</th>
<th>MUSCULOSKELETAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurler (Type I)</td>
<td>Coronary artery narrowing, myocardial stiffening, valve and endocardial thickening</td>
<td>Enlarged tongue, frequent upper respiratory tract infections, restrictive pulmonary disease secondary to kyphoscoliosis</td>
<td>Mental retardation, developmental delay, hydrocephalus with increased intracranial pressure, macrocephaly, conductive hearing loss</td>
<td>Joint stiffness, cervical spine immobility and/or instability</td>
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<tr>
<td>Hunter (Type II)</td>
<td>Valvular dysfunction, myocardial thickening, coronary artery narrowing, myocardial infarction</td>
<td>Short neck, thick tongue, upper airway obstruction</td>
<td>Mental retardation, hyperactivity, hydrocephalus with increased intracranial pressure, seizures</td>
<td>Joint stiffness, cervical spine immobility and/or instability</td>
<td></td>
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<tr>
<td>Sanfilippo (Type III)</td>
<td>None</td>
<td>Frequent upper respiratory tract infections</td>
<td>Developmental delay, hyperactivity, mental retardation, bulbar dysfunction with ataxia, dementia,</td>
<td>Short stature, same as Hurlers and Hunters but milder forms</td>
<td></td>
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<tr>
<td>Morquio (Type IV)</td>
<td>Valvular lesions, aortic regurgitation</td>
<td>Short neck, midface hypoplasia</td>
<td>Seizures</td>
<td>Normal intelligence</td>
<td>Atlantoaxial instability with possible spinal cord compression, kyphoscoliosis</td>
</tr>
<tr>
<td>Maroteaux– Lamy (Type VI)</td>
<td>Aortic stenosis, mitral insufficiency</td>
<td>Restrictive lung disease secondary to kyphoscoliosis</td>
<td>Normal intelligence, hydrocephalus with increased intracranial pressure</td>
<td>Atlantoaxial instability with possible spinal cord compression, decreased joint mobility</td>
<td></td>
</tr>
</tbody>
</table>

Management

» Call for Help
» Oxygenate
» Maintain Ventilation
» Treat Obstruction
» Test Ventilation
» Muscle Relaxant?
Take Home

- Assess
- Anticipate
- Guidelines
- Personalize
- Practice
Thank You