Child with an URTI

Upper respiratory tract infections may increase the risk of perioperative desaturation, laryngospasm, bronchospasm and postintubation croup. The anesthesiologist must elucidate whether it is appropriate to proceed with elective procedures in event of recent and current URTI.

ANESTHETIC CONSIDERATIONS:

- Increased risk of perioperative respiratory events
  - Laryngospasm
  - Bronchospasm
  - Desaturation
  - Postintubation stridor
  - Atelectasis
  - Pneumonia
- Risk of increased perioperative respiratory events is present for 6 weeks after URI
- Avoid airway manipulation/intubation if possible
- URI may represent prodrome of more serious illness – maintain a high index of suspicion
- Contagious illness may require isolation precautions

ANESTHETIC GOALS:

- Minimize airway manipulation and precipitants of bronchospasm
- Optimize respiratory status
- Balance the risk of perioperative respiratory decompensation with social and economic sequelae of case cancellation

HISTORY

- Surgical procedure: elective, urgent vs emergent?
- URTI:
  - Duration of symptoms
  - Presence of respiratory distress
    - Tracheal tugging
    - Indrawing
    - Head bobbing
    - Abdominal breathing
  - Cough – productive vs dry
  - Wheeze – response to bronchodilator therapy? Triggers? Steroids?
  - Appetite
  - Urine output
  - Energy level – lethargy vs active
- Past medical history
  - Development and growth
  - Review of systems
- Past surgical/anesthetic history
- Medications
- Allergies

PHYSICAL

- Vital signs
  - Room air O2 saturation
  - HR, BP, RR
- General
  - Volume status: Mucous membranes, sunken eyes, fontanelle
  - General appearance
- Respiratory exam
  - Air entry
  - Crackles
  - Wheezes
  - Bronchial breath sounds suggestive of consolidation
- Cardiac exam
- Peripheral exam
  - IV access
  - Extremities: cold/mottled vs. warm/well perfused

INVESTIGATIONS

- Use clinical exam to guide
- Consider:
  - CBCcD, lytes, BUN, Cr, glucose
  - ABG
  - CXR

OPTIMIZATION

- Bronchodilator therapy
- Fluid and electrolyte repletion
- Consider canceling elective case if child is very ill (febrile, volume deplete, lethargic, septic, contagious)

ANESTHETIC OPTIONS

- None
- Regional
- Neuraxial
- General
    - LMA
        - Avoids airway manipulation
    - ETT
        - High risk of bronchospasm/laryngospasm/postintubation croup

ANESTHETIC SETUP

- Standard CAS monitors
- Standard emergency drugs
- Bronchodilators in room – inhaled beta 2 agonists, magnesium, ketamine, IV beta agonists

MANAGEMENT OF ANESTHESIA

- **Induction**
    - Inhalational induction vs IV induction
        - Consider ketamine
    - Minimize airway manipulation until deeply anesthetized
- **Maintenance**
    - Inhalational
- **Emergence**
    - High risk of laryngospasm
    - Consider deep extubation vs awake extubation

DISPOSITION & MONITORING

COMPLICATIONS

- Laryngospasm
- Bronchospasm
- Pneumonia
- Atelectasis
- Desaturation
- Unanticipated hospital admission

REFERENCES

- Miller 7th Edition Chapter 82