SHOULD WE POSTPONE A CASE?

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Common reasons for Postponement - 1

- Inadequate Fasting
- URI
- LRI, Wheeze
- Cardiac evaluation for murmur
- Preterm
- ‘Low Hb’
- Fever
**Common reasons for Postponement - 2**

- Coagulation abnormalities
- Syndromic children
- Difficult airway
- Inadequate Premedication
- Electrolyte abnormalities
- Diabetes
- Others

**Case 1**

- 7yr old boy who has come to the hospital with lower abdominal/testicular pain
- Posted for scrotal exploration for torsion testis
- Has had juice an hour before
“Inadequately” Fasted

Misconception – Prolonged fasting
Based on assumption that residual gastric fluid vol. of >0.4ml/kg and pH<2.5, resulted in entire contents being funneled up into trachea to cause aspiration

- Reality – Incidence of aspiration in routine Paediatric elective cases – low, 1 to 8 per 10,000, vol of gastric fluid > 0.8ml/kg

- When aspiration occurs, sequelae minimal in ASA 1 and 2

- Clear liquids -1/2 life 15 min

Current Fasting guidelines

- More Humane
- Avoids Hypoglycemia(limited glycogen in premies)
- Lower incidence of anaesthetic induced hypotension
- Avoid administration of glucose containing solution
- Avoids fall in gastric fluid pH to <2.5
**Fasting Guidelines**

<table>
<thead>
<tr>
<th>Age</th>
<th>Clear Liquids</th>
<th>Milk/solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6 months</td>
<td>2 hours</td>
<td>4 hours</td>
</tr>
<tr>
<td>6mts to 3 yr</td>
<td>3 hours</td>
<td>6/8 hours</td>
</tr>
<tr>
<td>&gt; 3 years</td>
<td>3 hours</td>
<td>6/8 hours</td>
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</tbody>
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**URI**

Anesthesia for the Child with an Upper Respiratory Tract Infection: Still a Dilemma?  
Alan R. Tait, PhD, and Shobha Malviya,  
*Anesth Analg* 2005;100:59–65
**URI - Active or Recent**

- More episodes of Breathholding
- Laryngospasm
- Desaturation
- Bronchospasm
- Overall adverse respiratory events

So why not cancel all URI?

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**“Serious” URI**

- Sore throat
- Sneezing
- Purulent Rhinorrhea and congestion
  Presence of fever >101°F
- Productive cough
- Laryngitis and malaise

*Baker et al – any 2 of these + ,postpone*

Atopic rhinitis

- Clear rhinorrhea
- No fever
- Dry cough
- H/O atopy

Predictors of anaesthetic complications

- Presence of sputum/copious secretions
- Presence of Nasal congestion
- H/O reactive airway disease
- Surgery involving the airway
- Prematurity
- Use of ETTube in a child <5 yrs of age
- Induction agent, Thio> Halo> Sevo> propofol
- Use of Anticholinesteras
**Anaesthetic technique ???**

- LMA
- ET Tube

**Management of Anaesthesia**

- Use antisialagogues / bronchodilators
- Humidify gases / Hydrate child
- Adequate suctioning before induction? In deep planes
- Maintain adequate depth of anaesthesia
- Extubate when awake
- Observe in PACU
- SpO₂ monitoring vital at all times
Anaemia

- Myth - Hb of 10gm/dl
- Reality - No consensus
- Most anaesthesiologists would agree with a haematocrit of > 25% or Hb 8gm/dl
- Chronic Anaemia – CRF, haemoglobinopathies, can accept lower Hb values maybe 7gm/dl or upto 5 gm% Depends on Procedure and state of child

- Newborns /preterms are different/Normal values/Physiological anaemia
- Preterm accept Hct of 30%
- ASA guidelines for transfusion - <6gms transfuse, >10 gms no need to transfuse
- 6 to 10gms use discretion depending on clinical state of child, impending blood loss, Other factors
- Ref: pg177-187, A Practice of Anaesthesia for Infants and Children Cote, Lermann, Todres
**Consider**

1. Nature of surgery/ blood loss expected
2. Cardiorespiratory reserve of the child
3. Elective/emergency
4. Elective procedures – Postpone to investigate cause of anaemia, treat and proceed
5. Emergency? Preterm <30%Hct ?

**Premature infant for surgery**

- Preterm 32wk PCA, gest age of 28 wks, Hb of 14gm/dl for herniotomy
- 46wk PCA, Gest age 34 wk Hb 8gm/dl For herniotomy

Apnea inversely proportional to PCA and Gest. Age
**Prematurity**

![Diagram showing relationships between Prematurity, Anaemia, Apnea]

**Some Causes For Apnea**

- Metabolic
- CNS immaturity
- Sepsis
- Pharmacologic

Presentation available @ www.pcu.it
Prematurity

- At 44 wks – 5% chance of Apnea
- At 55wks – 1% chance of apnea
- Ideal to admit all infants <60 wks PCA
- Inj. Theophylline 8mg/kg oral
- Inj. Caffeine 10 mg/kg iv helps in prevention of postop apnea

Incidental discovery of a murmur at preop evaluation
**POCA registry 2000/2007**

- Infants younger than 1 yr of age accounted for 55%, 33% of all anaesthesia related arrests

- Severe underlying patient disease such as prematurity, congenital heart disease, and other congenital defects place the infant at higher anesthetic risk than the older child


**Are all murmurs pathological?**

- 50 to 75% of all murmurs are innocuous

- ECHO, Cardiac Evaluation indicated if
  1. The child is younger than a year of age
  2. The murmur fits pathological criteria
  3. There are cardiac signs or symptoms
  4. Evidence of LVH or RVH

**Pathological Murmurs are**

- Diastolic, pansystolic or late systolic, continuous (other than ven.hum)
- Usually loud (3/6 or more)
- Associated with a thrill
- Symptoms or signs of cardiac disease
- S2 inaudible or not single
- Are not altered with position

**Fever**

- Parents are often alarmed
- Temperature increase of 0.5 to 1 degree with no other symptoms --- Proceed
- Associated constitutional symptoms like rhinitis, pharyngitis, dehydration, --- Postpone
- Emergency Surgery and Fever --- Treat fever to reduce $O_2$ requirement, hydrate --- Proceed
- Be Aware of the Exanthematous fevers prevailing. Other inv??

COTWAF website- Preop evaluation of child, Rebecca Jacob
SHOULD WE POSTPONE A CASE?

Anaesthetic Technique
Experience of anaesthetist

Place
Type of Procedure

Equipment, personnel available
e.g. Difficult Airway
Thank you for your attention

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References

- Anesthesia-related Cardiac Arrest in Children Initial Findings of the Pediatric Perioperative Cardiac Arrest (POCA) Registry Jeffrey P. Morray, M.D.,* Jeremy M. Geiduschek, M.D.,? Chandra Ramamoorthy, Anesthesiology 2000; 93:6-14
- www.Cotwaf.com - Preoperative evaluation, Rebecca Jacob
- Ref.pg177-187, A Practice of Anaesthesia for Infants and Children Cote, Lerman, Todres