Anaesthesia for Tonsillectomy - Refresher 2016 (RXH's way)

Common indications:

- Sleep disordered breathing, such as OSAS.
- Recurrent tonsillitis

Anaesthesia

Premed:

- Allows for smoother induction and reduce post-op delirium and pain

Options:

- Midazolam 0.3mg/kg
- Clonidine 3-3ug/kg

Caution in: OSAS, Airway concerns, hypoxic patient
IF any concerns, patient must be observed after premedication given.

Induction:

Potential airway obstruction or difficult airway → keep child spont. breathing and consider inhalation induction

Airway:

Cuffed south facing RAE ETT (RXH preferred choice)
Benefits: easier access for the surgeon, sealing of the trachea from soiling, prevents theatre pollution with volatile gasses, reduces O2 leak and risk of airway fire

LMA: smoother extubation, reduced incidence of adverse resp incidence in URTI, Easy use if spont breathing.
Disadvantages: risk of needing to convert to ETT (<10%), and more likely in younger children. May impede surgery!

Beware: with securing of the surgical mouth gag, tube/ LMS may be kinked or moved.

Neuromuscular blocking agents:

Not routinely given

Maintenance:

- IPPV or spontaneous

Volatile agent: Isoflurane
Consider TIVA: Risk of PONV, MH< or Anaesthesia induced rhabdomyolysis

Analgesia:

- Post-op pain can be significant
  - Peaks at 3-4 days
  - May last up to 11 days
- Recommended: Multimodal, opioid-sparing technique

Pharmacological Options	Dose	Comments
Paracetamol	Load **15-20mg/kg IV** **40mg PR**	
NSAIDs	**1mg/kg** Diclofenac PR	May be as effective as opioids No resp depression Not possible to rule out increased risk of bleeding (acc to latest Cochrane review), - give at end, once haemostasis achieved.
Dexamethasone	**0.15-0.25mg/kg IVI** *(Doses of 0.5mg.kg may increase bleeding risk)*	Cochrane rev: single dose significantly reduces PONV and analgesia requirements ☺
Clonidine	Premed of **4mcg.kg po** likely to have benefit for postop pain (Cochrane) If no premed: **1mcg/kg slow infusion**	No delayed discharge for Day cases
Dexmedetomidine	** Optimal dose not known	As effective as opioids in prevention of post-op pain and emergence delirium Less resp depression than opioids
Ketamine	Ketamine 0.5mg-1mg/kg into the tonsillar bed - decrease pain scores up to 24 hours post	Improves post-op pain
Opioid	OSAS- reduce doses to 1/3 of normal dose, if necessary to use.	OSAS patients have increased sensitivity to opioid analgesic effect and S/E.
Codeine	3 children died in USA post tonsillectomy as they were unexpected rapid metabolizers. Weak opioid. **Not recommended.**	
Local anaesthetic	Case reports of adverse evets: obstruction from vocal cord paresis from local infiltration. Not routinely practiced at RXH.	

Non-Pharmacological Options	Dose	Comments
Honey	Reduces pain scores and analgesic use for first 5 days Increased tonsillar bed healing	
Acupuncture	Less pain and analgesia use	
Both require further, bigger trials for validation		

Anti-emetics

- Increased risk of PONV

Recommended:
  - Avoid opioid use
  - Dexa halves risk of PONV
  - Odansetron- 0.15mg/kg
  - Hyper-hydration with 30ml/kg compared with 10ml/kg of crystalloid
  - Acupuncture

Extubation

2015 Baijal study (Observational study);
No difference in airway complications when comparing deep extubation with awake extubation in tonsillectomies. Includes OSAS patients)

→ Always suction under direct vision to avoid the potentially lethal *"coroner's clot"*

Early Post-Operative Negative Behavior (ePONB)

As high as 90% after tonsillectomy!

Must differentiate emergence delirium from post-op pain.

Pain: abnormal facial expressions, inconsolable crying.
ED: no eye contact, no awareness of surroundings

** Look at separate summary on emergence delirium

The Bleeding Tonsil

Problems List:

1. Potentially difficult airway
2. Full stomach- due to swallowed blood
3. Anaemia & hypovolaemia
4. Recurrent anaesthetic
5. Difficult to assess true amount of blood loss

Primary Bleeding:

Occurs within first 24 hr (<1% of patients)

Secondary: 5-12 days post op. (4% of patients)

Risk Factors:

- Surgical technique
- Age > 5years
- Chronic tonsillar infection
- NSAIDS!

Anaesthetic Technique

- Consider but do not <u>delay</u> surgery with special investigations (Hb, hct, +- Coag studies)
- Two large bore IV lines
- ENT surgeon present
- Good pre-oxygenation

Induction:

No evidence whether inhalation in left lateral is better than RSI
Benefits to RSI: Quick securing of airway. Easier in uncooperative child. Consider head down and lateral tilt so blood can drain away.
Ketamine or etomidate will provide better haemodynamics.
Prior to extubation → large bore NGT to drain the stomach MUST BE PERFORMED
Extubate awake when gag & reflexes have returned,