

APAGBI SURVEY AND AUDIT SUB-COMMITTEE

Survey Title:

Laryngeal topicalization with lignocaine. A survey of practice amongst paediatric anaesthetists.

Survey Authors:

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Brief Description of Purpose:

Applying topical laryngeal lignocaine is a frequently used technique, often used to facilitate open airway surgery or to prevent coughing and other adverse respiratory events. Common practice is to keep a child nil by mouth post topicalisation to prevent against aspiration. However, lack of evidence exists as to the duration to which airway reflexes are obtunded, and before oral intake can be recommenced. In addition, a recent large observational audit¹ of patients undergoing endotracheal intubation without neuromuscular blocking agents, found a higher incidence of desaturation amongst patients receiving topicalisation compared with those who did not, with no difference in laryngospasm or coughing rates. This survey aims to look at the practice of using lignocaine to topicalise the larynx amongst paediatric anaesthetists in the UK. The questions we would like answered are:

- How common is the practice of topicalising the larynx with lignocaine?
- What are the indications?
- How long are children being kept nil by mouth following lignocaine topicalisation?
- Is this duration altered by any factors such as age or weight of the child or dose used?
- What is the maximum dose used?
- What is the reported incidence of severe coughing, laryngospasm and desaturation amongst paediatric anaesthetists?
- Are there any cases of major complications such as aspiration or lignocaine toxicity?

Category of Membership Surveyed:

All

Dates of Survey:

29/7/2013 – 30/9/2013

Number of Responses:

297 (267 consultants and 30 trainees)

254 used lignocaine as airway topicalisation in their paediatric practice

241 completed the entire survey

Outline Findings of Survey:

Indications for using lignocaine for laryngeal topicalisation

The commonest indication reported was to facilitate open airway surgery (89%). Lignocaine is also frequently used to prevent coughing (20%) and other perioperative respiratory adverse events (20%) and to avoid the use of neuromuscular blocking agents (20%). Other less frequently used indications are to facilitate bronchoscopy and to prevent sore throat.

Maximum dose and concentration used

The maximum dose used ranged from 1 to 10mg/kg (Mean 4.0, SD 1.7), with 1% lignocaine being the most frequently used concentration (46.9%). The most commonly used maximum dose was 3mg/kg

Duration of starvation post topicalisation The majority of anaesthetists (217 / 241 (90%)) kept the child nil by mouth for a period post administration of lignocaine. This duration ranged from 20 to 240 minutes (Mean 110, SD 48.1). Thirty-four anaesthetists altered this duration depending on one or more factors (see Table).

Table. Factors that altered the duration of starvation post lignocaine topicalisation

	n (%)
Dose used	19 (8.8)
Age of the child	8 (3.7)
Weight of the child	4 (1.8)
Concentration of lignocaine	6 (2.8)
Co-morbidities e.g. reflux	4 (1.8)
Type of surgery	1 (0.5)

Complications

Laryngospasm (28%) and severe coughing (14%) are relatively commonly reported complications. Four people reported lignocaine toxicity following lignocaine topicalisation. There were no reported incidences of aspiration or other serious adverse events.

Intended Publication/Presentation:

Yes, in progress

Follow up Actions Required:

Some respondents felt that APA guidance on the duration of post topicalisation starvation would be helpful. Further research in the area would assist with such guidance.

APA SURVEY REPORT

Date Submitted to Survey Lead:

8/11/2013

Submitted by:

Dr. Mari Roberts