INPLASY PROTOCOL

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Review Stage at time of this submission: **Formal screening of search results against eligibility criteria.**

Conflicts of interest:
None declared.

A Meta-Analysis of appropriate anesthetic state for removal of laryngeal mask in pediatric patients

Ma, Z[1]; Zhang, J[2]; Shu, S[3].

Review question / Objective: The purpose of this study is to provide some references for clinical use of LMA in children through analyzing the incidence of airway complications of laryngeal mask removal during deep anesthesia and awake anesthesia. P: Children under general anesthesia; I: Deep anesthesia; C: Awake anesthesia; O: The incidence of airway complications of laryngeal mask removal; S: Randomized controlled trials.

Eligibility criteria: Inclusion criteria: (1) They are randomized controlled trials to compare the complications during removal of LMA between deep anesthesia and awake anesthesia. (2) Th esubjects of the study were children. (3) Under general anesthetic surgery. (4) Trial data are available.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 09 February 2022 and was last updated on 09 February 2022 (registration number INPLASY202220022).

INTRODUCTION

Review question / Objective: The purpose of this study is to provide some references for clinical use of LMA in children through analyzing the incidence of airway complications of laryngeal mask removal during deep anesthesia and awake anesthesia. P: Children under general anesthesia; I: Deep anesthesia; C: Awake anesthesia; O: The incidence of airway complications of laryngeal mask removal; S: Randomized controlled trials.

Rationale: Systematic literature searches were conducted in PubMed, Web of science, and the Cochrane Library. All

searches were made independently by two reviewers and discrepancies were resolved through discussion. All retrieved documents were initially screened using ENDNOTE X9 software to exclude duplicates and literature that did not fulfill the inclusion criteria. Data was extracted from each study independently by two authors. Two authors independently evaluated the methodological quality and risk of bias of the included studies.

Condition being studied: Systematic literature searches were conducted in PubMed, Web of science, and the Cochrane Library. All searches were made independently by two reviewers and discrepancies were resolved through discussion.

METHODS

Search strategy: Search strategy in Cochrane
#1 children [ti,ab,kw] OR child [ti,ab,kw] OR kid [ti,ab,kw] OR kids [ti,ab,kw] OR pediatric [ti,ab,kw] OR paediatric [ti,ab,kw]
#2 anesthesia [ti,ab,kw] OR anaesthesia [ti,ab,kw]
#3 laryngeal mask [ti,ab,kw]
#4 removal [ti,ab,kw] OR extubation [ti,ab,kw]
#5 #1 AND #2 AND #3 AND #4
Search strategy in Pubmed
#1 children [TIAB] OR child [TIAB] OR kid [TIAB] OR kids [TIAB] OR pediatric [TIAB] OR paediatric [TIAB]
#2 anesthesia [TIAB] OR anaesthesia [TIAB]
#3 laryngeal mask [TIAB]
#4 removal [TIAB] OR extubation [TIAB]
#5 #1 AND #2 AND #3 AND #4
Search strategy in Web of science
#1 TS=(children) OR TS=(child) OR TS=(kid) OR TS=(kids) OR TS=(pediatric) OR TS=(paediatric)
#2 TS=(anesthesia) OR TS=(anaesthesia)
#3 TS=(laryngeal mask)
#4 TS=(removal) OR TS=(extubation)
#5 #1 AND #2 AND #3 AND #4.

Participant or population: Children under general anesthesia.

Intervention: Deep anesthesia.

Comparator: Awake anesthesia.

Study designs to be included: Randomized controlled trial.

Eligibility criteria: Inclusion criteria: (1) They are randomized controlled trials to compare the complications during removal of LMA between deep anesthesia and awake anesthesia. (2) The subjects of the study were children. (3) Under general anesthetic surgery. (4) Trial data are available.

Information sources: PubMed, Web of science, and the Cochrane Library.

Main outcome(s): The incidence of airway complications of laryngeal mask removal during deep anesthesia and awake anesthesia. The complications included laryngospasm, airway obstruction, desaturation, breath-holding, cough and excessive secretion.

Additional outcome(s): None.

Quality assessment / Risk of bias analysis: The Cochrane risk assessment was used to evaluate the quality of the included literature.

Strategy of data synthesis: Extract the data and Meta-analysis with RevMan5.3 software. The random effects model for analysis was used due to the between-study heterogeneity. Heterogeneity among the studies was assessed using the I2 statistic. We quantified inconsistency by calculating I2 and interpreted it using the following guide: 0% to 50% may represent low heterogeneity, 50% to 75% may represent moderate heterogeneity and 75% to 100% may represent high heterogeneity.

Subgroup analysis: None.

Sensitivity analysis: Sensitivity analysis was performed using RevMan5.3 software. The sensitivity of the study was reflected by observing changes in effect size by deleting one of the studies.

Language: No language limits be imposed on the search.

Country(ies) involved: China.

Keywords: Children, anesthesia, laryngeal mask airway (LMA), removal.

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