INPLASY PROTOCOL

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Lesser complications of laryngeal mask airway than endotracheal tubes in pediatric airway management: A review of literature and meta-analysis

Dong, W[1]; Zhang, W[2]; Er, JX[3]; Liu, JP[4]; Han, JG[5].

Review question / Objective: The relevant expert consensus has not pointed out which ventilation device is better during general anesthesia in the pediatric airway management for elective surgery.

Condition being studied: We carried out a keyword search using the terms "layngeal mask, LMA, endotracheal tube, tracheal tube, children, pediatric, anesthesia, RCT, randomized controlled trials, randomized, elective surgery." In general, searches are developed in MEDLINE in Ovid; Embase.com; the Cochrane Central Register of Controlled Trials (CENTRAL) via the Wiley Interface; Web of Science Core Collection; PubMed restricting to records in the subset "as supplied by publisher" to find references that not yet indexed in MEDLINE; and Google Scholar. When available, these databases were searched using a combination of subject headings (such as MeSH) and filters (such as RCT). We reviewed references of included studies to identify relevant studies. We imposed no language or time restriction. The exact date of the database search is September 1, 2021.We carried out a keyword search using terms "layngeal mask, LMA, endotracheal tube, tracheal tube, children, pediatric, anesthesia, RCT, randomized controlled trials, randomized, elective surgery."

INTRODUCTION

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mask, LMA, endotracheal tube, tracheal tube, children, pediatric, anesthesia, RCT, randomized controlled trials, randomized, elective surgery." In general, searches are developed in MEDLINE in Ovid; Embase.com; the Cochrane Central Register of Controlled Trials (CENTRAL) via the Wiley Interface; Web of Science Core Collection; PubMed restricting to records in the subset "as supplied by publisher" to find references that not yet indexed in MEDLINE; and Google Scholar. When available, these databases were searched using a combination of subject headings (such as MeSH) and filters (such as RCT). We reviewed references of included studies to identify relevant studies. We imposed no language or time restriction. The exact date of the database search is September 1, 2021.We carried out a keyword search using terms "layngeal mask, LMA, endotracheal tube, tracheal tube, children, pediatric, anesthesia, RCT, randomized controlled trials, randomized, elective surgery."

METHODS

Participant or population: The participants were patients undergoing general anesthesia, regardless of gender.

Intervention: The laryngeal mask was used in the experimental group, and the endotracheal intubation was used in the control group. The models and specifications of the laryngeal mask and endotracheal intubation were not limited.

Comparator: Main comparison and outcomes: heart rate variation, bronchospasm, throat pain, mucosal injury, hypoxemia, postoperative cough, nausea and vomiting, reflux aspiration, one-time implantation success rate.

Study designs to be included: Randomized Controlled Trial.

Eligibility criteria: Inclusion criteria: (1) The study type was RCT, and the literature language was limited to English; (2) The participants were patients undergoing general anesthesia, regardless of gender;

(3) Intervention measures: The laryngeal mask was used in the experimental group, and the endotracheal intubation was used in the control group. The models and specifications of the laryngeal mask and endotracheal intubation were not limited; (4) Main comparison and outcomes: heart rate variation, bronchospasm, throat pain, mucosal injury, hypoxemia, postoperative cough, nausea and vomiting, reflux aspiration, one-time implantation success rate.

Information sources: In general, searches are developed in MEDLINE in Ovid; Embase.com; the Cochrane Central Register of Controlled Trials (CENTRAL) via the Wiley Interface; Web of Science Core Collection; PubMed restricting to records in the subset "as supplied by publisher" to find references that not yet indexed in MEDLINE; and Google Scholar15. When available, these databases were searched using a combination of subject headings (such as MeSH) and filters (such as RCT).

Main outcome(s): Heart rate variation, bronchospasm, throat pain, mucosal injury, hypoxemia, postoperative cough, nausea and vomiting, reflux aspiration, one-time implantation success rate.

Quality assessment / Risk of bias analysis: The quality of the included literature was evaluated according to the Cochrane Manual risk bias assessment criteria. The evaluation contents mainly include: Random distribution method; Allocation scheme is hidden; Blind method; Integrity of the resulting data; Selective reporting of research results; Other sources of bias. The GRADE scoring system evaluated the quality of evidence for significant outcome indicators. According to GRADE grading standards, the evidence quality of outcome indicators was divided into four levels: high, medium, low, and very low.

Strategy of data synthesis: The content of data extraction mainly includes:(1) the essential characteristics of the included studies, including the author of the literature and the year of publication;(2) the essential characteristics of the subjects,

including sample size, etc.;(3) the specific details of the intervention measures and clinical outcome indicators. RevMan 5.2 software was used for data synthesis.

Subgroup analysis: Subgroup analysis was performed on the included data, and the inter-study heterogeneity was determined by X2 tests.

Sensitivity analysis: Changing inclusion criteria (especially controversial studies), excluding low-quality studies, using different statistical methods/models to analyze the same data, etc.

Language: English.

Country(ies) involved: China.

Keywords: laryngeal mask; general anesthesia; endotracheal intubation; meta-analysis; hypoxemia; postoperative cough.

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