INPLASY PROTOCOL

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None declared.

Contrast of oropharyngeal leak pressure and clinical performance of I-gel™ and LMA ProSeal™ in patients: a meta-analysis

Tan, Y[1]; Jiang, JY[2]; Wang, RR[3].

Review question / Objective: **P: pediatric and adults patients; I: i-gel airway; C: Laryngeal Mask Airway ProSeal; O: oropharyngeal leak pressure, rate of first-insertion success, ease of airway insertion, insertion time, the rate of first gastric tube insertion success, and reported complications.**
Condition being studied: **Supraglottic Airway Device (SAD) is presently the common modality of airway management in pediatric and adult patients for short surgical procedures under general anesthesia. It not only provides adequate ventilation, oxygenation, and delivery of anesthetic agents, but has lower risk of respiratory adverse events, thus replacing the need for conventional tracheal intubation. To overcome the risk of regurgitation and aspiration of gastric contents with the first-generation SAD, several second generation SADs with a gastric drain tube have been introduced. I-gel™ and LMA Proseal™ are two such second-generation SADs.Oropharyngeal leak pressure (OLP) is used to quantify the efficacy of airway sealing in devices and indicates airway protection, successful placement, and positive pressure ventilation. Several randomized controlled trials (RCTs) compared i-gel™ with LMA ProSeal™, but the results were controversial.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 October 2022 and was last updated on 03 October 2022 (registration number INPLASY2022100013).

INTRODUCTION

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METHODS

Participant or population: Pediatric and adults patients.

Intervention: i-gel airway.

Comparator: Laryngeal Mask Airway ProSe.

Study designs to be included: RCT.

Eligibility criteria: Only published prospective RCTs that compared i-gel™ with LMA ProSeal™ were included. Case reports, correspondence, reviews, manikin research, animal studies, and non-English articles were excluded.

Information sources: Eligible studies were made by searching e-databases EMBASE, CENTRAL, PubMed, and the ScienceDirect.

Main outcome(s): Oropharyngeal leak pressure (OLP).

Quality assessment / Risk of bias analysis: Cochrane Collaboration standards were used to evaluate the risk of bias in RCTs. The standards were as follows: randomization, allocation concealment, blinding, incomplete outcome data, selective reporting, and other bias. A judgment of high, unclear, or low risk of material bias was assigned for each item.

Strategy of data synthesis: Review Manger 5.3 software was used to count data. Weighted mean differences (MD), relative ratio (RR), and associated 95% confidence intervals were applied to pool data. An I^2 >50% denotes heterogeneity, and the random-effects model was used.

Subgroup analysis: Subgroups were analyzed considering confounding factors, such as age, surgery type, neuromuscular blocker (NMB) use, and the possible effect of the measurement method on the OLP.

Sensitivity analysis: Sensitivity analysis was used to search for possible explanations for significant heterogeneity.

Country(ies) involved: China.

Keywords: i-gel™; oropharyngeal leak pressure; laryngeal mask airway ProSeal™.

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