

# Comparison of Ease of Insertion of Supraglottic Airway Devices I-Gel Vs LMA-Proseal in Paediatric Elective Surgeries

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**Abstract:** *Background:* Comparison of ease of Insertion of Supraglottic airway devices I-GEL vs LMA-PROSEAL in paediatric elective surgeries. *Methodology:* The selected children were randomized into one of two groups labelled as I (I-GEL) and P (LMA-PROSEAL) by allotting lots with alphabets I and P. Children with lot I were assigned to group I. Those with lot P were assigned to group P. Each group was allotted with 50 children. *Results:* In Group P the insertion is easy in 90%, where as in Group I it is 96%. In group P difficult insertion is 10%, in Group I difficult insertion is 4%. The difference between both Groups is statistically significant in term of ease of insertion. (p 0.05). *Conclusion:* Group I Provided good ease of insertion compare with Group P in case of easy {96%} and difficult (4%) insertions.

**Keywords:** I-GEL, LMA-PROSEAL

## 1. Introduction

Paediatric patients have specific airway characteristics that are rather different from those of adults, and their intubation therefore has a number of unique features. Supraglottic airway devices have been shown to be safe & effective in paediatric anaesthesia. It has many advantages over endotracheal tube by producing less sympathetic stimulation, less airway irritability and they are well tolerated at lighter plane of anaesthesia. Laryngeal mask airway, a supraglottic airway device is designed to provide and maintain a seal around the laryngeal inlet that could overcome the complications associated with endotracheal intubation. The relatively new supraglottic airway devices, LMA-Proseal & I Gel have been introduced recently and are safely used in children during spontaneous or controlled ventilation without complications.

## 2. Aims and Objectives

The aim of this study is to compare the ease of insertion between I-Gel and LMA-Proseal in anaesthetized, spontaneously breathing, paediatric age group patients posted for elective, below umbilical surgical procedures.

## 3. Materials and Methods

The study was conducted in 100 patients of either sex between 2-8 years of age belonging to ASA class I and II undergoing elective below umbilical surgeries in Government General Hospital, Anantapur.

### Inclusion Criteria

- 1) ASA PS I and ASA PS II
- 2) Children of age 2 to 8 years
- 3) Patients of either sex
- 4) Weight of 10 to 25kgs

- 5) Mouth opening of more than 3 cm
- 6) Elective surgeries of duration up to 60 minutes, such as Herniotomy, Circumcision, Orchidopexy, Vesicolithotomy, Hydrocele.

### Exclusion Criteria

- 1) Restricted mouth opening
- 2) Altered airway anatomy
- 3) Congenital heart disease
- 4) Emergency surgeries
- 5) Risk of aspiration
- 6) Bleeding disorders

The selected children were randomized into one of two groups labelled as I and P by allotting lots with alphabets I and P. Children with lot I were assigned to group I. Those with lot P were assigned to group P.

Each group was allotted with 50 children.

All children were fasted six hours pre-operatively for solids and 2 hours for clear fluids. The patients were brought into the operation theatre and intravenous access obtained with appropriate size venous cannula.

Intravenous fluid Ringer's lactate was started. Standard monitors like Pulse Oximeter, Automated Non-invasive Blood Pressure, ECG, Precordial stethoscope were connected and baseline values were recorded. All patients were premedicated with Inj. Atropine 20 µg / kg I. V, Inj. Midazolam 0.02 mg / kg I. V, Inj. Fentanyl 2 µg/kg I. V, and Inj. Ondansetron 0.1 mg/kg I. V, 5 min prior to induction of anaesthesia.

Preoxygenation was done with 100% oxygen for 3 minutes. Induction was achieved with Inj. Propofol 3 mg/kg I. V mixed with Inj. Lignocaine 0.5 mg/kg. Facemask ventilation was done with 2% to 3% Sevoflurane and oxygen until

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optimal conditions for supraglottic device insertion were attained.

#### 4. Observation and Results

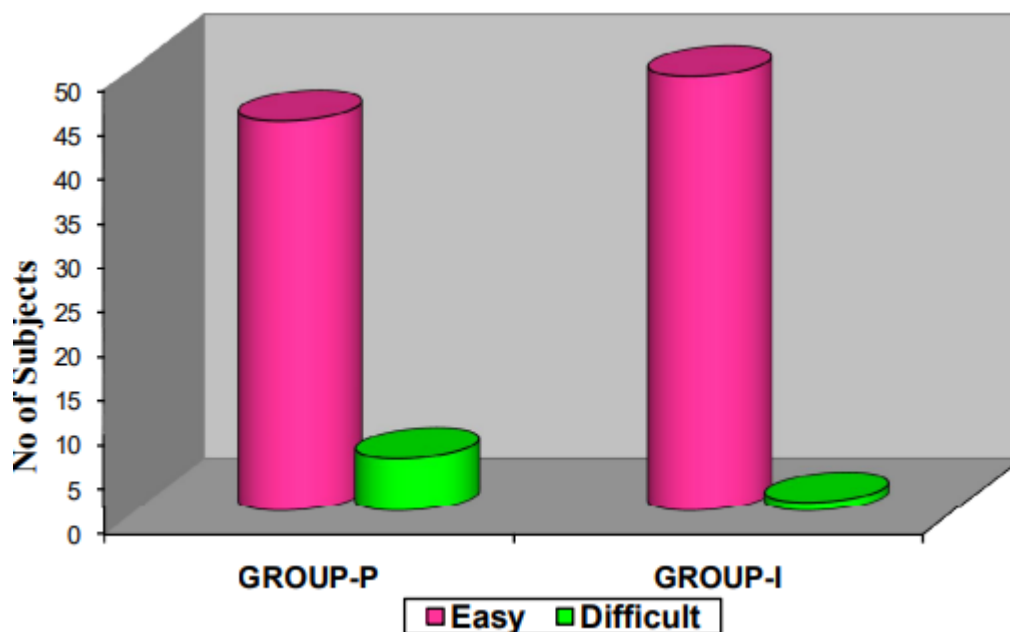
During insertion, the number and type of airway manipulations like gentle advancement, slight withdrawal of the device without removal and head extension with jaw thrust, required to maintain airway patency

During case was recorded. It was graded as “easy” if the device insertion was successful without any manipulation, or

using only one manipulation. It was graded as “difficult” if the device insertion requires more than one manipulation.

**Table:** Comparison of Ease of insertion between two groups.

	Group P		Group I		Total	
	N	%	N	%	N	%
Easy	45	90	48	96	93	93
Difficult	5	10	2	4	7	7
Chi- Square	1.38					
Df	1					
p- Value	0.23					



**Figure:** Ease of Insertion

In Group P the insertion is easy in 90%, where as in Group I it is 96%. In group P difficult insertion is 10%, in Group I difficult insertion is 4%. The difference between both Groups is statistically significant in terms of ease of insertion.

#### 5. Conclusion

The LMA-I-gel in our study could be inserted successfully in the first attempt in 96% of the patients and 4% of the patients required second attempt and overall success rate was 100%. Whereas in case of LMA-Proseal it could be inserted successfully in first attempt in 90% of patients and remaining 10% of the patients are required second attempt. It can be concluded that compare with LMA-Proseal, LMA-I-gel shows good results in terms of ease of intubation while doing intubation for difficult cases.

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