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Original Article

Anaesthesia Section

Comparison of First Attempt Success Rates between LMA Protector™ and i-gel™ in Elective Surgical Procedures: A Randomised Controlled Study

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ABSTRACT

Introduction: Supraglottic Airway Devices (SADs) are vital alternatives to endotracheal intubation in anesthesia and critical care. Second generation SADs like the i-gel™ and Laryngeal Mask Airway (LMA) Protector™ offer improved airway management- i-gel™ uses a soft thermoplastic for quick insertion without cuff inflation, while LMA Protector™ features silicone construction with dual gastric drainage channels to reduce aspiration risk. Comparing their leak pressures, first attempt success rate, and postoperative complications is essential to determine their safety and effectiveness.

Aim: To compare the effectiveness of the LMA Protector™ and i-gel™ regarding first attempt success rate, insertion time, airway sealing, and postoperative complications in patients undergoing elective surgery.

Materials and Methods: The present double-blinded, randomised controlled trial was conducted at SRM Medical College Hospital and Research Centre, a tertiary care facility in Chennai, India. involving 110 elective surgery patients aged 18-60 years with American Society of Anaesthesiologist (ASA) physical status 1 or 2. Participants were randomised into two groups using LMA Protector™ or i-gel™ devices. Patients with Mallampati class I or II were included, excluding those with Body Mass Index (BMI) >30 kg/m^2 or histories of Gastroesophageal Reflux Disease (GERD) or Chronic Obstructive Pulmonary Disease (COPD). The primary outcome was first attempt insertion success, with secondary outcomes including insertion time, oropharyngeal leak pressure, and postoperative complications. Data were analysed using Statistical Package for Social Sciences (SPSS) 21.0, intergroup analysis was done using Student's t-test or Mann-Whitney U test and Chi-square test.

Results: The two groups demonstrated similar baseline characteristics, with no statistically significant differences in age, sex distribution, height, weight, or BMI. Group B (i-gel™) had a significantly higher first attempt success rate (100 vs. 71%, p<0.0001) and shorter insertion time (16.35±3.47 vs. 51.69±8.47 sec, p<0.0001) than group A (LMA Protector™). However, LMA Protector™ showed a higher mean oropharyngeal leak pressure (32.11±3.37 vs. 26.53±1.93 cmH_2O, p<0.0001). Postoperative sore throat was more frequent in group A (65.5 vs. 50.9%) but without statistical significance (p=0.122).

Conclusion: The i-gel™ showed enhanced efficacy compared to the LMA Protector™ in several key areas. It achieved higher first attempt success rates, insertion time, and minimal postoperative complications. The findings of this study reinforce the clinical preference for utilising the i-gel™ in patients undergoing elective surgeries.

Keywords: Airway management, Anaesthesia, Laryngeal mask airway, Pharyngitis, Postoperative sore throat

INTRODUCTION

The SADs have become essential tools in airway management across anaesthesia and critical care, particularly in scenarios involving challenging airways. The classic LMA was first introduced followed by various advanced supraglottic devices that have emerged, enhancing features such as anatomical design, material quality, and overall effectiveness. These advancements have considerably improved the effectiveness of SADs in providing ventilation [1-3].

Advancements in airway management devices have led to the development of products such as the i-gel™ and LMA Protector™. The i-gel™ (Intersurgical Ltd., Wokingham, UK) features a non inflatable cuff made from a soft gel like material, designed to form a seal with the perilaryngeal structures. This design facilitates easy insertion and helps prevent damage to surrounding tissues [4]. Clinical practice has highlighted significant advantages, such as ease of insertion, reduced incidence of airway trauma, and adequate airway sealing pressure. These features make it a valuable tool in both routine and emergency situations [5-8].

The LMA-Protector™ (Teleflex Medical, Co. Westmeath, Ireland) is a SAD made from medical grade silicone, which provides greater flexibility and causes less trauma compared to earlier LMAs. It has a preformed curved shape that allows for easier insertion and includes an inflatable cuff to secure the airway [9]. A key feature of the LMA-Protector™ is its two separate drainage channels that open into a special chamber located behind the cuff bowl. This chamber narrows toward an opening that aligns with the upper esophageal sphincter. Additionally, the device comes with either a traditional pilot balloon or the built-in Cuff Pilot™, which simplifies monitoring and adjustment of cuff pressure [10].

A preliminary assessment of the LMA-Protector™ has shown it to be simple to insert and to provide a reliable seal [11]. The i-gel™, which is prominently utilised in clinical settings, has been documented to demonstrate comparable airway sealing efficacy to earlier versions of LMA devices [12-14]. The present study hypothesised that there was no significant difference in the airway sealing efficacy between the LMA Protector™ and the i-gel™. Although numerous studies have evaluated the performance of various generations of SADs, there is lack of literature directly comparing the LMA Protector™ and the i-gel™ [11-14]. Therefore, the present study aimed to determine whether a significant difference exists in their airway seal effectiveness. This study aimed to evaluate the clinical performance of the devices, with the primary objective being the first attempt

success rate. Secondary objectives include insertion time, ease of insertion, and the incidence of postoperative upper airway complications in anaesthetised patients.

MATERIALS AND METHODS

This study was a double-blinded, randomised controlled trial was conducted at SRM Medical college hospital and research centre in Chennai, India done between 04.03.2024 and 02.01.2025. The study was conducted with adherence to ethical standards, as evidenced by the approval obtained from Hospital Ethics Committee (Ethics Clearance Number: SRMIEC-ST0723-728) and registered in the Clinical Trials Registry of India (CTRI/2024/02/063035). Informed written consent was obtained from all participants before their study enrolment.

Inclusion and exclusion criteria: Individuals were eligible for participation if they satisfied the specified inclusion criteria: American Society of Anaesthesiologists (ASA) physical status I and II, undergoing elective surgeries, Mallampati classification class 1 and 2, and aged between 18 and 60. Patients were excluded if they had a BMI >30 kg/m^2, were at risk of aspiration, had a history of GERD, COPD, bronchial asthma or used artificial dentures.

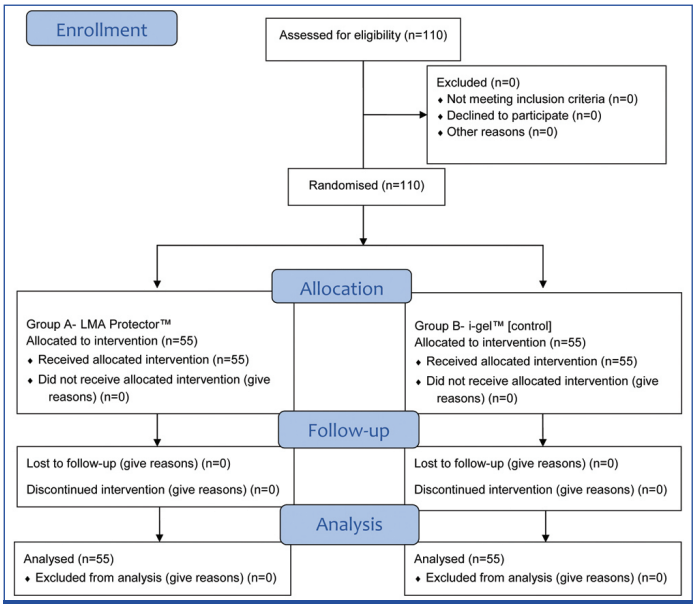
Sample size calculation: The sample size was calculated based on a study by Lakshmi TC et al., [2]; We took into account their primary objective: first attempt success rate. "$n \geq \{Z1-\alpha/2+Z1-\beta\}2\times\{\sigma_1^2+\sigma_2^2\}\div(\mu1-\mu2)2$"

α=1.96; β=0.84; $\mu1$=16.9; $\mu2$=19.6; $\sigma1$=4.9; $\sigma2$=5.2;

$n \geq (1.96+0.84)2\times(4.9)2+(5.2)2\div(16.9-19.6)2$; $n=7.84\times51.05\div7.29$

$n \geq 5$; n1=55, n2=55

A total of 50 patients per group was necessary to achieve a significance level of 95% and a power of 80%. To account for potential dropouts, 55 patients per group were enrolled. Randomisation was achieved using a computer generated random allocation sequence, with allocation concealment maintained through Sequentially Numbered Opaque Sealed Envelopes (SNOSE) [Table/Fig-1]. An independent statistician generated the randomisation sequence, while enrollment and intervention assignments were conducted by separate team members blinded to group allocations. Participants, care providers, and outcome assessors were also blinded to group assignments.



[Table/Fig-1]: CONSORT diagram.

Participants were randomised into two groups. In group A, patients received the LMA Protector™ airway device, while in group B, the i-gel™ airway device was used. And i-gel™ was taken as control group. Patients were premedicated with oral alprazolam 0.25 mg the previous night and two hours before surgery. In the operating theatre, non-invasive monitors {Electrocardiogram (ECG), Non-Invasive Blood Pressure (NIBP) and pulse oximetry} were attached, and baseline values were documented.

Study Procedure

The premedication was done with intravenous glycopyrrolate, midazolam and ondansetron. Preoxygenation was performed for three minutes with 100% oxygen at 8 L/min. Anaesthesia was induced with intravenous fentanyl (2 mcg/kg) and propofol (2.5 mg/kg), following the highest standards of care. The assigned airway device was introduced after achieving an adequate plane of anaesthesia. The size of the LMA protector was selected according to patient body weight: size 3 for patients weighing 30-50 kg, size 4 for those weighing 50-70 kg, and size 5 for those weighing 70-100 kg. The appropriate i-gel size was selected based on the patient's body weight: size 1 for 1-5 kg, size 1.5 for 5-12 kg, size 2 for 10-25 kg, size 2.5 for 25-35 kg, size 3 for 30-60 kg, size 4 for 50-90 kg, and size 5 for patients weighing more than 90 kg. LMA Protector or i-gel will be introduced in their respective groups by postgraduate students who have done a minimum of 25 classic LMA or I gel successful insertions.

In group A, the LMA Protector™ was inserted by pressing against the hard and soft palate until resistance was felt in the hypopharynx. The cuff was inflated to maintain a standardised intracuff pressure of 60 cmH_2O. Similarly, the i-gel™ was inserted in group B by pressing against the hard palate until resistance was felt. Mechanical ventilation was initiated with a tidal volume of 8 mL/kg, respiratory rate of 14 breaths/min, a fresh gas flow of 3 L/min, and 2% sevoflurane. Airway placement was considered adequate based on a square wave pattern on the $EtCO_2$ tracing in capnography and visible chest expansion. In inadequate positioning, a second attempt was made with additional manoeuvres. Device insertion time was recorded from the moment the device was taken in hand to the appearance of the square wave on capnography. Failure was defined as two unsuccessful attempts, $EtCO_2$ >50 mmHg, or SpO_2 <90%, after which endotracheal intubation was performed. After the surgical procedure, the device was removed when the patient was fully awake and protective airway reflexes were restored. The device was meticulously inspected for blood staining, and the patient's oral cavity was thoroughly examined for injuries. Complaints of sore throat or episodes of laryngospasm were documented and managed according to standard protocols, ensuring comprehensive postoperative care.

STATISTICAL ANALYSIS

Data analysis was performed using IBM-SPSS version 21.0 with descriptive statistics presented as mean and standard deviation. Inferential statistics involved advanced methods such as Student's t-test or Mann-Whitney U test for continuous data and chi-square test for categorical data. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 110 participants were randomly allocated to two separate groups for the study. Group A comprised 55 participants utilising the LMA Protector™, while group B consisted of 55 participants using the i-gel™. All participants, without any exclusions, received the intended treatment. No participants were lost to follow-up; all 110 people taking part in the study finished it, and their results were included in the final review. Participants were recruited over six months, and follow-up was conducted immediately after the surgical procedure to assess intraoperative and postoperative outcomes. The trial was completed as planned with no early termination, and all outcomes were assessed per the protocol. Patients demographic of both groups are summarised in [Table/Fig-2].

Regarding the surgical procedures performed are shown in [Table/Fig-3]. The first attempt success rate was significantly higher in

Variables	Group A (LMA Protector™)	Group B (i-gel™)	p-value
Age (years) (Mean±SD)	33.42±9.10	31.96±6.96	0.348
Sex distribution (%)			
- Female	37 (67.30%)	42 (76.40%)	0.289
- Male	18 (32.70%)	13 (23.60%)	
Height (cm) (Mean±SD)	156.42±6.61	157.73±6.23	0.287
Weight (kg) (Mean±SD)	61.31±8.20	62.73±7.59	0.348
BMI (Mean±SD)	25.28±4.53	25.29±3.38	0.985
ASA I	28 (50%)	22 (40%)	
ASA II	27 (49%)	33 (60%)	

[Table/Fig-2]: Baseline demographic characteristics of study groups.

Procedures	Group A (LMA Protector™)	Group B (i-gel™)	p-value
Axillary abscess (%)	3 (5.50%)	6 (10.90%)	0.79
Cervical lymph node biopsy (%)	3 (5.50%)	6 (10.90%)	
Chest wall swelling (%)	3 (5.50%)	6 (10.90%)	
Cystoscopy (%)	14 (25.45%)	9 (16.40%)	
Fibroadenoma (%)	9 (16.50%)	7 (12.70%)	
Haemorrhoidectomy (%)	3 (5.50%)	0	
Lipoma excision (%)	3 (5.50%)	2 (3.60%)	
Peuperal sterilisation (PS) (%)	11 (20.00%)	13 (23.60%)	
Sterilisation (%)	6 (10.90%)	6 (10.90%)	

[Table/Fig-3]: Surgical procedures performed in study groups.

group B (100%) compared to group A (71%), as denoted in [Table/Fig-4] (p<0.0001). This demonstrates the superior performance of the i-gel™ in terms of initial insertion success. The time of insertion was significantly shorter in group B (16.35±3.47 sec vs. 51.69±8.47 sec in group A, p<0.0001).

Characteristics	Group A (LMA Protector™)	Group B (i-gel™)	p-value
Time of insertion (sec)	51.69±8.47	16.35±3.47	<0.0001
First attempt success (%)	71.00%	100.00%	<0.0001
Failed insertion (%)	4 (7.30%)	0 (0.00%)	0.042

[Table/Fig-4]: Device usage and insertion metrics.

Postoperative sore throat was more common in group A, with 65.5% of patients reporting it and 50% in group B (p<0.0001). Blood staining was observed in 72.70% of cases in group A, while 25% reported in group B (p<0.0001), as shown in [Table/Fig-5]. Additionally, there was no laryngospasm or mucosal injury in either group.

Outcomes/Complications	Group A (LMA Protector™)	Group B (i-gel™)	p-value
Oropharyngeal leak pressure (cmH_2O)	32.11±3.37	26.53±1.93	<0.0001
Ease of gastric tube insertion (%)			
- Yes	35 (63.60%)	46 (83.60%)	0.017
- No	20 (36.40%)	9 (16.40%)	
Postoperative sore throat (%)			
- Yes	36 (65.50%)	28 (50.9%)	0.122
- No	19 (34.50%)	27 (49.1%)	
Blood staining (%)	40 (72.70%)	14 (25.50%)	<0.0001

[Table/Fig-5]: Airway outcomes and postoperative complications.

The comparison of physiological parameters revealed no significant difference in oxygen saturation between groups as shown in [Table/Fig-6], while LMA protector was associated with significantly higher mean arterial pressure and low $ETCO_2$ values at various time points. There was reduced hemodynamic response in i-gel group.

Parameters	Group-A (LMA Protector™)	GROUP B (i-gel™)	p-value
SpO_2			
Baseline	98.6±1.14	98.2±1.48	0.1152
5 min	98.6±1.14	98.6±1.14	1.00
10 min	98.6±1.14	99±1.22	0.0759
15 min	98.6±1.14	98.6±1.14	1.00
30 min	100±0	100±0	1.00
MAP			
Baseline	74.2±9.44	70.4±6.02	0.0134
5 min	82.6±8.17	71.4±4.66	0.0001
10 min	79.8±8.78	69.4±5.176	0.0001
15 min	80.4±10.80	70.8±8.07	0.0001
30 min	85.8±14.70	68.4±3.20	0.0001
$ETCO_2$			
Baseline	23.4±2.40	25.2±4.14	0.0010
5 min	33.4±3.13	33.4±3.13	1.00
10 min	32±5.87	35±4.35	0.0030
15 min	28.6±2.96	32.4±4.77	0.0001
30 min	35.2±2.94	35.2±4.77	1.00
HR			
Baseline	79±5.56	74.2±4.49	0.0001
5 min	84.2±14.00	78.6±8.87	0.0138
10 min	78±6.48	75.6±3.78	0.0195
15 min	77.4±5.63	81±6.78	0.0031
30 min	75.8±5.11	77.2±7.59	0.2595

[Table/Fig-6]: Haemodynamic monitoring.

No exploratory analyses were conducted; all analyses were pre-specified in the study protocol. Regarding adverse events, there were no reports of laryngospasm or mucosal injury in either group, indicating that both devices were well-tolerated during the procedures.

DISCUSSION

This study compared the performance of the LMA Protector™ and i-gel™ across multiple parameters, including first attempt insertion success, insertion time, number of attempts required for successful placement, oropharyngeal leak pressure, gastric tube insertion, and postoperative complications. The i-gel™ demonstrated a significantly higher first attempt success rate (100%) compared to the LMA protector™ (71.0%). These findings aligned with previous studies, such as that by Ari DE et al., which reported that the i-gel™ was inserted more quickly than the LMA Protector™, likely due to the time needed to inflate the LMA's cuff balloon. The i-gel™ provides easier and faster insertion due to its non-inflatable cuff design [15,16].

The i-gel™ also demonstrated superior efficiency in terms of insertion time, requiring significantly less time to insert (16.35±3.47 seconds) compared to the LMA Protector™ (51.69±8.47 seconds, p<0.0001). This observation is consistent with prior studies reporting faster insertion times for the i-gel™ [1-3]. Similarly, a meta-analysis by Chen X et al., found no significant difference in first attempt success rates or insertion times between the i-gel™ and the LMA Supreme™ [17], suggesting that differences in performance may be more evident when comparing the i-gel™ to devices with inflatable cuffs, such as the LMA Protector™. The shorter insertion time of the i-gel™ is likely due to its non-inflatable cuff design, which simplifies the insertion process and eliminates the time required for cuff inflation.

Regarding oropharyngeal leak pressure, the LMA Protector™ demonstrated a significantly higher mean leak pressure (32.11±3.37 cmH_2O) compared to the i-gel™ (26.53±1.93 cmH_2O, p<0.0001). This finding was consistent with previous studies, which have reported superior airway sealing with the LMA Protector™, with leak

pressures around 31 cmH_2O, while the i-gel™ typically shows leak pressures in the range of 23-29 cmH_2O [1,12-15]. Similarly, Won D et al., observed that the LMA Protector™ provided a better airway seal, whereas the i-gel™ was associated with faster insertion times and a lower incidence of mucosal injury. The higher leak pressure achieved by the LMA Protector™ was likely due to its inflatable cuff, which conformed closely to the pharyngeal and hypopharyngeal anatomy, resulting in a more customised and secure fit [18]. This enhanced sealing capability was particularly beneficial in clinical situations that required elevated airway pressures, such as positive pressure ventilation during laparoscopic procedures, as it helped to maintain ventilatory efficiency and reduces the risk of aspiration.

Gastric tube insertion was notably more successful with the i-gel™, with an 83.6% success rate compared to 63.6% in the LMA Protector™ group (p=0.017), indicating superior ease of insertion. This advantage was likely due to the i-gel™'s non-inflatable cuff, which offered less resistance during insertion, in contrast to the inflatable cuff of the LMA Protector™, which might create an obstruction. Furthermore, the LMA Protector™ has a relatively larger internal volume in its drainage channel- 31 mL for size 3, 41 mL for size 4, and 42 mL for size 5 [18]- potentially increasing the risk of gastric tube coiling, thereby complicating successful placement. These findings were consistent with those of Ekinci O et al., (2015), who reported a higher first attempt success rate for gastric tube insertion with the i-gel™ (92.5%) compared to the LMA ProSeal™ (72.5%, p<0.05). Similarly, in the present study, the i-gel™ demonstrated greater ease and reliability in gastric tube insertion. The failed attempts observed in nine patients using the LMA Protector™ may also be attributed to the size of the gastric tube, as larger tubes required greater flexibility and space for smooth advancement, features more effectively accommodated by the i-gel™. These results support the i-gel™ as a preferable choice in clinical scenarios where reliable gastric tube placement is essential [19].

Postoperative complications were more frequently observed in the LMA Protector™ group, particularly in the form of sore throat and blood staining, both indicative of mucosal trauma. Sore throat occurred in 65.5% of patients and blood staining in 72.7% in the LMA Protector™ group, compared to 50.9% and 25%, respectively, in the i-gel™ group (p<0.0001). This disparity is likely attributable to the LMA Protector™'s larger, inflatable cuff, which may exert greater pressure on the oropharyngeal mucosa, increasing the risk of tissue irritation and injury. Previous studies have similarly reported a higher incidence of mucosal injury associated with the LMA Protector™, with blood staining observed in approximately 24% of cases, compared to just 7% with the i-gel™ [12-15]. Similarly, Yilmaz M et al., in his study concluded following insertion of the airway device and pneumoperitoneum, the heart rate was higher in the intubation group. In the LMA Protector group OLP measures were found to be statistically similar [20]. Supporting this, Liu SJ et al., (2024) found that conventional insertion of the LMA Protector™ resulted in significantly higher rates of pharyngeal pain and mucosal injury compared to the index finger-assisted method in a cohort of 300 patients undergoing bronchoscopy [21]. In contrast, the i-gel™- featuring a soft, gel-like, non-inflatable cuff- conforms more gently to the airway anatomy, thereby minimising mechanical trauma and reducing the incidence of postoperative complications. These findings reinforce the i-gel™'s advantage in terms of patient comfort and safety during recovery.

While the LMA Protector™ provided a higher oropharyngeal leak pressure, indicating a better seal, the i-gel™ demonstrated superior ease of insertion, first attempt success, gastric tube insertion, and postoperative complications. The i-gel™'s design, particularly its non-inflatable cuff, contributed to its faster and more reliable placement and fewer complications. These findings align with previous research that highlighted the differences in performance between the two devices, with the i-gel™ being favored for its ease of use and lower complication rates. However, the LMA Protector™ may still be preferred in specific clinical settings requiring higher leak pressure. Further studies are necessary to explore the clinical implications of these findings and refine device selection for specific procedures. We have summarised clinical trails of various SAD in [Table/Fig-7] [16-21]. Hence, the present study findings reject the hypothesis as i-gel group showed enhanced efficacy in relation to

S. No.	Author's name and year [Reference No.]	Place of study	Population studied	Name of study drugs compared	Parameters assessed	Conclusion
1	Arı DE et al., [16]	Turkey	64 ASA 1 to 3 patients	LMA protector and i-Gel	Time of SAD insertion, number of attempts, time, and ease of GT insertion were recorded.	This study suggested that the i-gel™ was inserted more quickly than the LMA Protector™, likely due to the additional time required to inflate the latter's cuff balloon.
2	Chen X et al., [17]	China	Systematic literature searches were conducted in PubMed, the Cochrane library, EMBASE, ISI Web of Knowledge, China Journal Full-text Database, Chinese Biomedical Database, Chinese Scientific Journals Full-text Database, CMA Digital Periodicals, and Google scholar	Igel and LMASupreme	Device placement time, first attempt insertion success, blood on removal.	The meta analysis found no significant difference between the i-gel™ and LMA Supreme™ in terms of first attempt success rate or insertion time.
3.	Won D et al., [18]	Seoul	76 adult patients	Effects of cricoid pressure and paratracheal pressure on placement of the i-gel®	Success rate of i-gel insertion, resistance during insertion, time required for insertion, accuracy of the insertion location, tidal volumes, and peak inspiratory pressure with or without each maneuver after i-gel insertion.	Insertion of the i-gel supraglottic airway was significantly more successful, easier, and faster while applying paratracheal pressure than cricoid pressure.
4.	Ekinci O et al., [19]	Istanbul	Eighty patients with age range 18-65 years	Laryngeal Mask Airway (LMA) ProSeal (P-LMA) and I-gel (I-gel)	Insertion time, ease of device insertion, ease of gastric tube insertion, airway leakage pressure.	Reporting a first attempt gastric tube placement success rate of 92.5% for i-gel™ versus 72.5% for LMA ProSeal™ (p<0.05).
5.	Yilmaz M et al., [20]	Turkey	154 adult patients were randomised to two groups	Group 1 (tracheal intubation) and group 2 (LMA Protector)	Tidal volume, peak inspiratory pressure (PIP), Oropharyngeal Leak Pressure (OLP) and haemodynamic parameters.	Following insertion of the airway device and pneumoperitoneum, the heart rate was higher in the intubation group. In the LMA Protector group OLP measures were found to be statistically similar.

6.	Liu SJ et al., [21]	China	Enrolled 300 patients, age between 18 and 75	effect of 2 insertion methods, namely the conventional Laryngeal Mask Airway (LMA) insertion and the index finger-assisted LMA insertion	Postoperative complications, such as oral mucosal injury and pharyngeal pain. success rate of first-time insertion, the incidence rate of inverse folding of LMA tips, oropharyngeal leak pressure (OLP), and other postoperative complications.	Compared two insertion methods for the LMA Protector™ in 300 patients undergoing bronchoscopy and found that conventional insertion led to a significantly higher incidence of mucosal injury and pharyngeal pain compared to the index finger-assisted method.
7.	Present study	India	110 patients	Comparing LMA Protector and i-gel	First attempt success rate, insertion time, airway sealing, and postoperative complications.	The present study revealed several statistically significant differences between the two groups. Group B (i-gel™) achieved a 100% first attempt insertion success rate, significantly higher than group A (LMA Protector™), which had a 71% success rate, requiring a second attempt in 29% of cases ($p<0.0001$). The mean insertion time was also notably shorter in group B (16.35±3.47 seconds) compared to group A (51.69±8.47 seconds, $p<0.0001$). In contrast, group A demonstrated a significantly higher mean oropharyngeal leak pressure (32.11±3.37 cmH_2O) than group B (26.53±1.93 cmH_2O, $p<0.0001$). Gastric tube insertion was more successful in group B, with a success rate of 83.6%, compared to 63.6% in group A ($p=0.017$). Additionally, the incidence of blood staining-indicative of mucosal trauma- was significantly higher in group A (72.7%) compared to group B (25.5%) ($p<0.0001$).

[Table/Fig-7]: Summary of clinical trials comparing two Supraglottic Airway Device (SAD) [16-21].

first attempt success rates, insertion time and minimal postoperative complications when compared to the LMA protectorTM group.

Limitation(s)

The study has several limitations. Since it was carried out at a single center, the findings may not be generalisable to different clinical environments or diverse patient populations. Additionally, patients with BMI >30 kg/m², GERD, COPD, asthma, or those using dentures were excluded, potentially limiting the applicability of the findings. The follow-up period focused mainly on intraoperative and immediate postoperative outcomes without assessing long-term complications. While blinding was implemented, complete blinding during device insertion may not have been fully achieved. Furthermore, the study lacked objective measures for postoperative complications, such as laryngoscopy, to assess mucosal injury, which could affect the accuracy of the reported outcomes.

CONCLUSION(S)

This research analysed the clinical outcomes associated with the i-gel™ and LMA Protector™ highlighting the variations in their performance and safety features. The findings indicated that the i-gel™ demonstrated a higher rate of success on the first attempt, a shorter insertion time, and greater ease in gastric tube insertion compared to the LMA Protector™. Postoperatively, patients in the i-gel™ group experienced no sore throat or blood staining, unlike those in the LMA Protector™ group. Both devices were well tolerated, with no reports of laryngospasm or mucosal injury. While the LMA Protector™ had higher oropharyngeal leak pressure, the i-gel™ showed superior ease of use, efficiency, and patient comfort, enhancing the patient's experience. Overall, the i-gel™ is the preferred choice for airway management, with further research needed to confirm its effectiveness across different patient groups.

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