ORIGINAL RESEARCH

A comparative study of the performance of I-Gel vs LMA Supreme vs Ambu AuraGain in laparoscopic surgeries under general anaesthesia

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ABSTRACT
Background: Many supraglottic airway devices are utilized instead of intubation. In this single-blind, interventional prospective trial, we compared I-Gel, LMA Supreme, and Ambu AuraGain in laparoscopic procedures performed under general anaesthesia. The aim and objectives were to compare the time and number of attempts required for SGA, Nasogastric tube insertion, the intra-operative and post-operative SGA complications and the Oropharyngeal seal pressure. **Material and Methods:** Following institutional review board approval and written informed consent. A comparative, single-blind, interventional prospective study was conducted. Patients with American Society of Anesthesiologists physical status 1 and 2 who met the qualifying requirements were randomly assigned to one of three groups: Group A I-Gel (n=30), Group B LMA Supreme (n=30), or Group C Ambu AuraGain (n=30). The major purpose was to compare the duration and number of attempts required for SGA insertions. **Results:** Demographic data were not different across the groups. Group A I-Gel had a significantly lower SAD insertion time (19.93±1.91 s) compared to Group B LMA Supreme (25.63±1.75) and Group C Ambu AuraGain (29.77±2.47). One number of attempt was significantly (p=0.01) lower in Ambu AuraGain (43.3%) than LMA Supreme (50%) and I-Gel (80%) group. The pairwise comparison revealed that there was significant difference in number of attempts required for LMA insertion between Ambu AuraGain& I-Gel (p=0.006) and LMA Supreme & I-Gel (p=0.03). The OLP forGroup C (30.83±2.10 cm H2O) was greater than Group B (26.10±1.66 cm H2O) and Group A (22.70±1.44 cm H2O). There was no significant difference (p>0.05) in the number of attempts needed for nasogastric tube insertion between the groups. There was no significant difference (p>0.05) in perioperative and postoperative complications within or between groups. **Conclusion:** Ambu AuraGain has higher oropharyngeal seal pressures than I-gel and Supreme LMA, as well as comparable hemodynamic stability and postoperative outcomes, making it a better SAD for laproscopic procedures than I-gel and Supreme LMA. I-Gel's shorter insertion time makes it better suited for resuscitation and emergencies.
Keywords: Supraglottic airway devices, oropharyngeal seal pressures, insertion time, Laparoscopic surgeries.

INTRODUCTION

For over a decade, anesthesia has traditionally been administered using conventional mask anesthesia with the Goldmann dental mask and endotracheal intubation.[1] However, the introduction of airway devices has significantly refined airway management. In the past couple of decades, many supraglottic airways have been introduced, aiming to replace tracheal intubation. Supraglottic airway management devices are a family of medical tools designed to facilitate oxygenation and ventilation without the need for endotracheal intubation. These devices, known as Supraglottic Airway Devices (SADs), are increasingly being used as an excellent alternative to mask ventilation and tracheal intubation, with fewer complications. Airway devices with gastric access tubes are also increasingly used in surgeries requiring general anesthesia and positive airway ventilation. SADs maintain stable hemodynamics while requiring less anesthesia than endotracheal intubation.[2]

Laparoscopic surgeries are becoming more popular due to their relatively low morbidity and quick recovery times, which reduce hospital stays. However, one disadvantage of laparoscopic surgery is the need for CO_2 insufflation, which can compromise the respiratory system and increase the risk of air leakage.

Pneumoperitoneum, a common condition during these surgeries, raises airway pressure and increases the risk of regurgitation.[3]

Laparoscopic surgeries have gained favor over conventional abdominal surgeries due to benefits such as smaller incisions, lower risk of postoperative complications, and early discharge. Nonetheless, the effects of pneumoperitoneum and the subsequent changes in respiratory volumes and pressures remain major concerns during these procedures.[4] Laparoscopic surgeries are usually performed under general anesthesia with the airway secured using an endotracheal tube. However, rigid laryngoscopy can cause hemodynamic responses, damage to oropharyngeal structures during intubation, and other invasive complications, highlighting the need for better alternatives like Supraglottic Airway Devices (SADs).[5]

The second generation of SADs includes a gastric drain tube that separates the respiratory and alimentary tracts, offering a better oropharyngeal seal and improved protection against regurgitation and pulmonary aspiration compared to the first generation.[6] In 1981, Archie Brain invented the laryngeal mask airway (LMA) to overcome the concerns of position instability and epiglottic blockage observed in mask and other airway usage while creating no higher gastric insufflation than endotracheal tubes (ETT).7 The development of the LMA marked a milestone in anesthesiology. Over time, new supraglottic airway devices have been added to the anesthesiologist's toolkit.[7] Modifications to the Classic LMA (cLMA) model include a second tube placed lateral to the airway channel to facilitate nasogastric tube passage, separate respiratory and esophageal pathways, and permit the escape of gastric contents, reducing the risk of gastric insufflation, regurgitation, and pulmonary aspiration. Examples of such models include LMA Proseal, LMA Supreme, and I- gel.[8]The present study was conducted tocompareI- Gel vs LMA Supreme vs AmbuAuraGain in laparoscopic surgeries under general anaesthesia.

MATERIALS & METHODS

The current study was conducted in the Department of Anesthesiology at a tertiary care institution HIMS in Sitapur, Uttar Pradesh. It comprised of both male and female patients planned for laparoscopic surgeries age 18-70 years, BMI <30 kg/m2, ASA grade 1 and 2, and surgery duration less than 2 hours. The present study was conducted on of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Group A – Group of 30 patients undergoing I-Gel insertion. Group B – Group of 30 patients undergoing Supreme LMA insertion. Group C – Group of 30 patients undergoing Ambu AuraGain insertion. All of the patients who participated had their demographic information recorded. Following the pre-anesthetic evaluation, all basic laboratory tests (CBC, LFT, RFT, FBS, PT/INR, viral marker, chest X-Ray, and ECG) required for general anesthesia were performed. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Comparison of pre-operative vitals among the groups

Pre-operative vitals	Ambu AuraGain (n=30)	LMA Supreme(n=30)	I-Gel(n=30)	p-value	p-value		
					Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I-Gel	LMA Supreme vs I-Gel
HR	77.40±10. 16	74.23±7.56	76.33±7.39	0.34	0.32	0.87	0.60
(beats/m in)							
SBP (mmHg)	130.13±9. 61	131.13±7. 62	132.67±10.27	0.56	0.90	0.54	0.79
DBP (mmHg)	73.73±7.29	76.00±7.33	72.73±6.95	0.20	0.44	0.85	0.19
MAP (mmHg)	92.53±5.77	94.38±5.78	92.71±5.76	0.39	0.43	0.99	0.50
SPO2 (%)	99.53±0.73	99.63±0.76	99.33±0.88	0.33	0.87	0.59	0.31

The analysis of variance test showed that there was no significant (p>0.05) difference in pre-operative vitals among the groups. The pairwise comparison tests revealed that all the pair of groups were similar (p>0.05) in terms of pre-operative vitals.

Table II Comparison of HR among the groups across the time periods

Time period	Ambu AuraGain (n=30)		LMA Supreme (n=30)		I-Gel(n=30)		p-value	p-value		
	Mean	SD	Mean	SD	Mean	SD		Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I-Gel	LMA Supreme vs I-Gel
Before insertion	74.83	8.97	73.17	6.58	75.87	9.67	0.46	0.72	0.88	0.43
Immediate after insertion	73.03	8.98	72.83	9.67	73.53	9.12	0.95	0.99	0.97	0.95
2 minutes	70.53	9.61	73.13	11.76	70.63	9.42	0.54	0.59	0.99	0.61
4 minutes	71.30	10.35	72.00	9.25	70.73	9.94	0.88	0.95	0.97	0.87
6 minutes	74.73	10.29	73.10	9.47	74.40	11.62	0.812	0.81	0.99	0.88
8 minutes	77.00	7.97	77.83	8.84	76.50	7.67	0.81	0.91	0.97	0.80
10 minutes	77.47	7.77	77.53	7.11	76.93	9.03	0.95	0.99	0.96	0.95
25 minutes	77.97	8.06	77.60	7.15	77.07	8.89	0.91	0.98	0.90	0.96
40 minutes	77.80	7.81	78.27	6.86	77.07	8.92	0.83	0.97	0.93	0.82
55 minutes	77.80	8.27	77.87	7.20	77.27	8.99	0.95	0.99	0.96	0.85
70 minutes	77.83	7.87	77.80	7.13	77.00	9.06	0.90	1.00	0.91	0.92
85 minutes	77.50	8.00	77.60	7.05	77.00	9.01	0.95	0.99	0.96	0.95
100 minutes	77.83	7.92	77.53	7.11	76.93	9.03	0.90	0.98	0.90	0.95

The analysis of variance test showed that there was no significant (p>0.05) difference in HR among the groups. The pairwise comparison tests revealed that HR was similar between (p>0.05) all the groups at all the time periods. There was slight increase in HR from before insertion to subsequent time periods in all the groups.

Table III Comparison of SBP among the groups across the time periods

Time period	Ambu AuraGain (n=30)		LMA Supreme (n=30)		I-Gel (n=30)		p-value	p-value^2		
	Mean	SD	Mean	SD	Mean	SD		Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I-Gel	LMA Supreme vs I-Gel
Before insertion	127.43	10.20	126.67	14.66	126.17	12.5	0.92	0.97	0.92	0.98
Immediate after insertion	127.27	12.25	125.00	15.09	122.63	16.30	0.47	0.82	0.44	0.80
2 minutes	123.47	12.11	122.20	11.17	124.60	12.41	0.73	0.91	0.92	0.71
4 minutes	123.57	9.53	122.40	9.61	123.90	9.69	0.81	0.88	0.99	0.81
6 minutes	119.27	10.03	118.67	11.64	120.67	8.65	0.73	0.97	0.85	0.72
8 minutes	117.80	12.44	116.47	13.79	121.00	12.76	0.38	0.91	0.60	0.37
10 Minutes	130.77	9.71	131.07	9.01	130.40	8.82	0.96	0.99	0.98	0.95
25 minutes	130.57	9.21	131.03	8.72	130.57	8.86	0.97	0.97	1.00	0.97
40 minutes	130.67	9.80	127.30	21.03	130.20	8.38	0.61	0.63	0.99	0.71
55 minutes	130.40	8.68	130.33	8.17	130.83	8.48	0.96	0.99	0.97	0.97
70 minutes	130.17	10.13	130.47	6.70	130.47	8.48	0.98	0.99	0.99	1.00
85 minutes	129.73	9.23	130.47	7.68	130.80	8.93	0.88	0.94	0.88	0.98
100minutes	130.43	9.33	129.87	7.18	131.07	9.57	0.86	0.96	0.95	0.85

The analysis of variance test showed that there was no significant (p>0.05) difference in SBP among the groups. The pairwise comparison tests revealed that SBP was similar (p>0.05) between all the groups at all the time periods. There was slight increase in SBP from before insertion to subsequent time periods in all the groups.

Table IV Comparison of DBP among the groups across the time periods

Time periods	Ambu AuraGain (n=30)		LMA Supreme (n=30)		I-Gel (n=30)		p-value 1	p-value[2]		
	Mean	SD	Mean	SD	Mean	SD		Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I- Gel	LMA Supreme vs I- Gel
Before insertion	71.40	8.12	70.77	6.20	69.00	8.61	0.46	0.94	0.45	0.65
Immediate after insertion	66.80	8.76	68.37	6.70	68.53	9.47	0.67	0.75	0.70	0.99
2 minutes	66.53	11.13	68.67	9.97	66.77	12.01	0.71	0.73	0.99	0.78
4 minutes	68.80	9.49	70.80	7.25	68.73	8.29	0.55	0.62	0.99	0.60
6 minutes	68.53	9.73	69.30	8.33	71.23	10.32	0.52	0.94	0.51	0.71
8 minutes	68.50	9.12	68.07	7.49	70.20	8.74	0.59	0.97	0.71	0.59
10 minutes	65.17	7.86	68.83	5.87	68.90	7.77	0.07	0.12	0.11	0.99
25 minutes	65.27	7.92	68.83	6.30	69.37	7.45	0.06	0.14	0.07	0.95
40 minutes	65.57	7.35	68.77	6.08	69.10	7.50	0.10	0.18	0.13	0.98
55 minutes	65.40	7.67	69.37	5.96	68.93	7.49	0.06	0.08	0.13	0.97
70 minutes	65.37	7.59	69.20	5.76	69.07	7.47	0.06	0.09	0.10	0.99
85 minutes	65.23	7.48	68.93	5.77	68.80	7.69	0.07	0.10	0.12	0.99
100 minutes	65.53	7.61	69.00	5.86	69.33	7.31	0.07	0.13	0.09	0.98

The analysis of variance test showed that there was no significant (p>0.05) difference in DBP among the groups. The pairwise comparison tests revealed that DBP was similar (p>0.05) between all the groups at all the time periods. There was decrease in DBP from before insertion to subsequent time periods in all the groups.

Table V Comparison of MAP among the groups across the time periods

Time periods	Ambu AuraGain (n=30)		LMA Supreme (n=30)		I-Gel (n=30)		p-value 1	p-value[2]		
	Mean	SD	Mean	SD	Mean	SD		Ambu AuraGai n vs LMA Supreme	Ambu AuraGain vs I- Gel	LMA Supreme vs I- Gel
Before insertion	90.08	6.45	89.40	5.59	88.06	6.41	0.43	0.90	0.41	0.67
Immediate after insertion	86.96	5.95	87.24	7.50	86.57	8.71	0.84	0.98	0.97	0.93
2 minutes	85.51	8.92	86.51	7.17	86.04	9.28	0.90	0.89	0.96	0.97
4 minutes	87.06	6.76	88.00	5.54	87.12	7.03	0.82	0.83	0.99	0.85
6 minutes	85.44	7.49	85.76	6.77	87.71	7.81	0.43	0.98	0.46	0.56
8 minutes	84.93	8.03	84.20	6.94	87.13	8.17	0.31	0.92	0.51	0.31
10 minutes	87.03	6.76	89.58	4.51	89.40	6.64	0.19	0.24	0.29	0.99
25 minutes	87.03	6.87	89.57	4.59	89.77	6.52	0.15	0.24	0.19	0.99
40 minutes	87.27	6.58	88.28	8.73	89.47	6.52	0.51	0.85	0.48	0.80
55 minutes	87.07	6.58	89.69	4.58	89.57	6.54	0.16	0.21	0.24	0.99
70 minutes	86.97	6.53	89.62	4.45	89.53	6.48	0.14	0.19	0.21	0.99
85 minutes	86.73	6.53	89.44	4.11	89.47	6.73	0.12	0.18	0.17	1.00
100 minutes	65.32	4.48	66.29	2.94	66.80	4.59	0.36	0.63	0.34	0.87

The analysis of variance test showed that there was no significant (p>0.05) difference in MAP among the groups. The pairwise comparison tests revealed that MAP was similar (p>0.05) between all the groups at all the time periods. There was decrease in MAP from before insertion to subsequent time periods in all the groups.

Table VI Comparison of SPO$_2$ among the groups across the time periods

Time periods	Ambu AuraGain (n=30)		LMA Supreme (n=30)		I-Gel (n=30)		p-value 1	p-value^2		
	Mean	SD	Mean	SD	Mean	SD		Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I-Gel	LMA Supreme vs I-Gel
Before insertion	99.07	1.08	99.13	1.04	99.13	1.07	0.96	0.96	0.96	1.00
Immediate after insertion	99.07	1.02	98.97	1.00	99.13	1.01	0.81	0.92	0.96	0.79
2 minutes	98.37	1.30	98.30	1.42	98.43	1.33	0.93	0.98	0.98	0.92
4 minutes	98.60	1.22	98.63	1.07	98.60	1.22	0.99	0.99	1.00	0.99
6 minutes	99.03	0.93	99.00	0.95	99.07	0.94	0.96	0.99	0.99	0.95
8 minutes	99.13	1.01	99.13	0.97	99.13	1.01	1.00	1.00	1.00	1.00
10 minutes	99.27	1.17	99.43	1.17	99.40	1.00	0.83	0.83	0.88	0.99
25 minutes	99.30	1.18	99.57	0.94	99.47	0.86	0.58	0.55	0.79	0.92
40 minutes	99.50	0.90	99.60	0.86	99.43	1.07	0.79	0.91	0.96	0.77
55 minutes	99.30	1.18	99.63	0.85	99.43	0.97	0.44	0.41	0.86	0.72
70 minutes	99.37	0.96	99.50	1.08	99.50	0.90	0.83	0.85	0.85	1.00
85 minutes	99.33	1.09	99.67	0.88	99.53	0.90	0.40	0.37	0.70	0.85
100 minutes	99.50	0.90	99.57	0.86	99.50	0.78	0.94	0.95	1.00	0.95

The analysis of variance test showed that there was no significant (p>0.05) difference in SPO2 among the groups. The pairwise comparison tests revealed that SPO2 was similar (p>0.05) between all the groups at all the time periods. There was slight increase in SPO2 from before insertion to subsequent time periods in all the groups.

Table VII Comparison of Time required for LMA Insertion among the groups

Groups	Time required for LMA Insertion in seconds (Mean±SD)
Ambu AuraGain	29.77±2.47
LMA Supreme	25.63±1.75
I-Gel	19.93±1.91
p-value^1	0.0001*

The analysis of variance showed that there was significant (p=0.0001) difference in time required for LMA insertion among the groups.

Table VIII Comparison of Number of attempts required for LMA insertion among the groups

Number of attempts required for LMA insertion	Ambu AuraGain (n=30)		LMA Supreme(n=30)		I-Gel(n=30)		p-value	Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I-Gel	LMA Supreme vs I-Gel
	No.	%	No.	%	No.	%				
One	13	43.3	15	50.0	24	80.0	0.01	0.48	0.006	0.03
Two	12	40.0	13	43.3	6	20.0				
Three	5	16.7	2	6.7	0	0.0				

One number of attempt was significantly (p=0.01) lower in Ambu AuraGain (43.3%) than LMA Supreme (50%) and I-Gel (80%) group. The pair wise comparison revealed that there was significant difference in number of attempts required for LMA insertion between Ambu AuraGain& I-Gel (p=0.006) and LMA Supreme & I-Gel(p=0.03).

Table IX Comparison of LMA/SGA Seal pressure cm of H_2O among the groups

Groups	LMA/SGA Seal pressure cm of H_2O (Mean±SD)
Ambu AuraGain	30.83±2.10
LMA Supreme	26.10±1.66
I-Gel	22.70±1.44
p-value	0.0001

The analysis of variance showed that there was significant(p=0.0001) difference in LMA/SGA seal pressure cm of H2O among the groups and between the groups being higher among patients of Ambu AuraGain (30.83±2.10) than LMA Supreme (26.10±1.66) and I-Gel (22.70±1.44) group.

Table X Comparison of Postoperative complications among the groups

Postoperative complications	Ambu AuraGain (n=30)		LMA Supreme (n=30)		I-Gel(n=30)		p-value 1	Ambu AuraGain vs LMA Supreme	Ambu AuraGain vs I-Gel	LMA Supreme vs I-Gel
	No.	%	No.	%	No.	%				
Sore throat	6	20.0	3	10.0	3	10.0	0.42	0.27	0.27	1.00
Cough	1	3.3	0	0.0	0	0.0	0.3.6	0.31	0.31	-
Hoarseness of voice	0	0.0	0	0.0	0	0.0	-	-	-	-
Dysphagia	0	0.0	0	0.0	0	0.0	-	-	-	-
Dysphonia	0	0.0	0	0.0	0	0.0	-	-	-	-
Blood stain on removal of SGA	5	16.7	3	10.0	3	10.0	0.66	0.44	0.44	1.00

Sore throat postoperative complication was highest among patients of Ambu AuraGain group (20%). Sore throat was in 10% patients of both LMA Supreme and I-Gel. There was no significant (p>0.05) difference in postoperative complications among the groups and between the groups.

DISCUSSION
The current study was conducted in the Department of Anesthesiology at a tertiary care center in Sitapur, Uttar Pradesh, with the goal of comparing I-Gel, LMA Supreme, and Ambu AuraGain in laparoscopic surgeries performed under general anesthesia. Each group comprised 30patients.

In this study, there was no significant (p>0.05) age difference between the groups, indicating that the groups were comparable in terms of age. Males made up more than half of the patients for Ambu AuraGain (56.7%), LMA Supreme (60%) and I-Gel (53.3%). There was no significant (p>0.05) difference in gender among the groups, indicating that the groups are comparable in gender. Similar to this study, Manisha et al (2022)[10] discovered that all patients in both groups [Ambu® AuraGain™ (AAU) vs LMA® ProSeal™ (PLMA)] were comparable in terms of demographic data. Gunasekaran et al[9]discovered that the study groups' demographic profiles were similar.

In the current study, more than half of the patients in all groups had grade II ASA. There was no significant (p>0.05) difference in ASA grade across the groups, indicating that the groups are comparable in terms of

ASA. The study observed no significant (p>0.05) difference in anthropometric measures across the groups. In this study, there was no significant difference (p>0.05) in preoperative vitals between the groups. The pairwise comparison tests found that all pairs of groups had similar pre-operative vitals (p>0.05). In study, Manisha et al[10]discovered that all patients in both groups [Ambu® AuraGain™ (AAU) vs LMA® ProSeal™ (PLMA)] had equivalent baseline vital statistics.

In this study, there was no significant difference in HR (p>0.05) across the groups. The pairwise comparison tests demonstrated that the HR rates were similar (p>0.05) across all groups and time periods. All groups experienced a small rise in HR from before insertion to following time periods. In contrast to this study, Öterkuş and Kuşderci[11] reported that patients in the ETT group had a greater heart rate during induction, intubation, and the first minute compared to the LMA group (P<0.05 for all values). The study found that there was no significant (p>0.05) difference in SBP between the groups. The pairwise comparison tests demonstrated that SBP was comparable (p>0.05) across all groups and time periods. All groups experienced a small increase in SBP from before insertion to following time periods.

The current investigation found no significant (p>0.05) difference in DBP across the groups. The pairwise comparison tests showed that DBP was similar (p>0.05) across all groups and time periods. All groups experienced a decrease in DBP from

before implantation to following time periods.In this study, there was no significant (p>0.05) difference in MAP between the groups. The pairwise comparison tests demonstrated that MAP was comparable (p>0.05) across all groups and time periods. Allgroups showed a decrease in MAP from before implantation to later time periods.

The study found that there was no significant (p>0.05) difference in SPO2 across the groups. The pairwise comparison tests demonstrated that SPO2 was comparable (p>0.05) across all groups and time periods. All groups experienced a small increase in SPO2 from before insertion to following time periods. Thus, our investigation demonstrated that there was no significant variation in all hemodynamic parameters across the groups or between the groups at any time point. Okyay et al[12] found that at all measurement times, the hemodynamic response values of the three groups (Pro Seal LMA, LMA Supreme, and I-gel) were equivalent. Intergroup hemodynamic changes at T0 and T1 were similar and higher in all three groups compared to other measurement times. Pradeep et al[13] found no statistically significant difference between pre- and post-insertion parameters in all three groups.

There was no significant (p>0.05) difference in the change in head position/SGA device across the groups or between the groups in this study. The study found a significant (p=0.0001) difference in LMA/SGA seal pressure cm of H2O between groups, with Ambu AuraGain patients having a higher value (30.83±2.10) than LMA Supreme (26.10±1.66) and I-Gel (22.70±1.44) groups.Manisha et al[10] found that group AAU had lower mean peak airway pressures than group PLMA immediately after LMA insertion (15.53±1.50 compared 17.06±2.56 cmH2O, p=0.004) and after pneumoperitoneum development (23.03±2.96 versus 26.58±10.12 cmH2O, p=0.04).

In this trial, individuals in the Ambu AuraGain group had the greatest rate of sore throat postoperative complications (20%). Ten percent of LMA Supreme and I-Gel patients reported a sore throat. There was no significant difference (p>0.05) in postoperative complications within or between groups. During anesthetic maintenance, airway manipulation was required in 19 patients (19/293, 6.48%), three of whom had the LMA replaced with endotracheal intubation, resulting in an effective ventilation rate of 96.7%. The oropharyngeal leak pressure measured $30.18 \pm 5.88 cmH_2O$. On the first day following surgery, 75 patients (25.86%) complained minor sore throats. Bloodstains on research devices were found in 58 patients (20%). On the first day following surgery, 75 patients (25.86%) complained minor sore throats. Gastric reflux was detected in the drainage tube in five individuals (1.72%), with no symptoms of aspiration in any of them.

CONCLUSION

Ambu AuraGain offered a superior oropharyngeal seal and greater leak pressures than I-gel and Supreme LMA, while maintaining equal hemodynamic stability and postoperative outcomes. As a result, with regular use, it may become a better choice in laparoscopic surgeries requiring general anesthesia.

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