

Performance of the Paediatric-sized i-gel™ compared with the Ambu Aura Once™ Laryngeal Mask in Anaesthetised & Ventilated Children

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Background and Aim

This is a prospective RCT evaluating the paediatric sized i-gel compared with the Ambu Aura Once in children.

Methods

With IRB approval and informed consent we included 201 children of both genders, aged 0-17 years with a weight of 5-50kg, ASA physical status I-II, scheduled for elective surgery under general anaesthesia. Primary outcome variables were success of placement and leak pressure. Secondary outcome variables included time to sufficient ventilation, fiberoptic view through the device, gastric tube insertion in case of the i-gel, and adverse events.

Results

- Demographic data were equal between the two groups
- No statistically significant difference was found between the high success rates of the masks
- Insertion time was longer, and airway leak pressure was higher for the i-gel
- In 44 of 95 successful i-gels, the device needed to be taped down to maintain sufficient airway leak pressure, especially in smaller children
- Side effects and post-operative complaints were all mild and without a difference between the devices



Conclusions

- Both the paediatric sized i-gel and the Ambu Aura Once Laryngeal Mask are suitable for paediatric anaesthesia with a high success rate
- The paediatric sized i-gel shows higher airway leak pressures
- Especially in small children, taping down of the i-gel is often needed to achieve sealing

Supraglottic Mask Insertion	Ambu Aura Once (n=99)	i-gel (n=102)	p-value
Success, n (%)	97/99 (98)	95/102 (93)	0.187
Airway leak pressure (cm H ₂ O)	19 ± 4	21 ± 5	0.001
Insertion time until successful ventilation (sec)	23 ± 8	27 ± 11	0.045
Fiberoptic view grade* 1/ 2/ 3/ 4/ missing, n (%)	85/8/1/0/3 (88/8/1/0/3)	84/9/2/0/0 (88/9/2/0/0)	0.737
Gastric tube insertion successful n (%)	Not possible	92 (97)	Not applicable

*1=full view of glottis, 2=partial view, 3=epiglottis only, 4=no glottic structures visible