Materials and Methods: We performed a prospective, observational study of fourteen ASA physical status I-II children, scheduled for elective office-based surgery. The i-gel® was placed under general anaesthesia according to the manufacturer’s recommendations. Correct ventilation was achieved by proper chest excursion, a square wave capnogram, absence of audible leak, and gastric distension. The oropharyngeal sealing pressure was measured at fresh gas flow of 5 L.min⁻¹, and pressure adjustment valve at 30 cmH₂O with the head and neck in neutral, flexed, extended and rotated positions. The fiberoptic laryngeal views in these positions were also assessed.

Results and Discussion: In our study, the sealing pressure with the i-gel® device was lower in the extended and the rotated positions, than that in the neutral position. Sealing pressure was increased in the flexed position. These findings were explained during the fiberoptic examination of the laryngeal inlet. The vocal cords were more easily seen in extension and rotation. Neck extension facilitated airway patency by increasing the laryngeal inlet space. Head rotation widened the oropharyngeal space, as it had a component of extension. Additionally, this position preserved to a great degree the adaptation of the ventilation hole of the i-gel® to the laryngeal inlet due to a simultaneous rotation of the neck and the supraglottic device. The flexed position narrowed the laryngeal inlet, but was not associated with airway obstruction since the epiglottis was not enclosed or down folded in the cuff.

Supraglottic Mask Performance

<table>
<thead>
<tr>
<th></th>
<th>Ambu Aura Once (n=43)</th>
<th>i-gel (n=43)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success n (%)</td>
<td>41 (95)</td>
<td>41 (95)</td>
<td>1.000</td>
</tr>
<tr>
<td>Insertion time until</td>
<td>22 ± 9</td>
<td>28 ± 13</td>
<td>0.020</td>
</tr>
<tr>
<td>Airway Leak Pressure (cm H₂O)</td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Fiberoptic view grade</td>
<td>37/1/1/0 (84/3/3/0)</td>
<td>40/3/0/0 (90/7/0/0)</td>
<td>0.982</td>
</tr>
</tbody>
</table>

* 1-full view of glottic aperture, 2-parial view, 3-only epiglottis visible, 4-no glottic structures visible

Conclusion(s): The pediatric-sized i-gel® is suitable for ventilation of anesthetized children and offers the additional advantage of gastric access. Compared to the Ambu Aura Once, it shows higher airway leak pressures. However, especially in very small children, the i-gel has the tendency to protrude outwards and often needs to be taped down with light force.

10AP1-10
Comparison of intranasal dexmedetomidine and midazolam for premedication in children
Department of Anaesthesiology and Intensive Care, Sisli Etfal Research and Training Hospital, Istanbul, Turkey

Background and Goal of Study: Premedication plays a very important role to minimize the distress for children in the operating room and to facilitate a smooth induction of anaesthesia (1). Midazolam is the most commonly used premedication in children (2). Dexmedetomidine is a new alpha-2 agonist with a more selective action on the alpha-2 adrenoceptor and a shorter half-life. In our study; we aimed to evaluate whether intranasal dexmedetomidine is as effective as intranasal midazolam for premedication in pre-school children.

Materials and Methods: This clinical study was designed as a prospective randomized controlled trial. After the approval of Ethics Committee of Sisli Etfal Training and Research Hospital and informed consent of the parents, 60 patients aged 2-6 years in ASA I-II physical status were enrolled in the study. Standart monitoring including heart rate(HR) and peripheral O₂ saturation (SpO₂) was applied to all patients in Premedication Unit and patients were randomized into two groups as to receive 0.5 mg/kg intranasal dexmedetomidine in Group D or 0.5 mg/kg intranasal midazolam in Group M. Sedation score, HR and SpO₂ were recorded before drug administration (basal=0.min), at 10.min after administration and with 5.min intervals until 30.min. Parental seperation at 30.min and mask tolerance at the anaesthesia induction were also evaluated. Student t, Mann Whitney U, Wilcoxon, chi square tests were used for the statistical analyses. P<0.05 considered as significant.

Results and Discussion: Sedation score was significantly higher in Group D compared to Group M at 15.min(p<0.05). When compared to 10.min sedation score values were significantly lower at all intervals in Group D and Group M (p<0.05). Parental seperation score was significantly higher (p<0.05) and mask tolerance at anaesthesia induction score was significantly lower (p<0.01) in Group D compared to Group M. HR and SpO₂ were comparable between the groups. HR values were significantly higher in Group D than Group M at all intervals except basal values (p<0.05). SpO₂ were comparable between the groups.

Conclusion(s): We conclude that; intranasal 0.5 mg/kg dexmedetomidine can be an alternative to intranasal 0.5 mg/kg midazolam when used for premedication in pre-school children.

References:

10AP1-9
The perfromance of the pediatric-sized i-gel™ compared with the Ambu Aura Once™ laryngeal mask in anesthetized and ventilated children
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Background and Goal of Study: The pediatric i-gel (Intersurgical Ltd, Wokingham, Berkshire, UK) is an adjusted adult i-gel. It features a gastric channel down to size 1.5. The Ambu Aura Once (Ambu A/S, Ballerup, Denmark) is a precurved laryngeal mask widely used in pediatrics. The aim of this prospective randomized controlled clinical trial is to compare the performance of both masks in anesthetized children. We assumed that both devices have equal insertion time and airway seal pressure.

Materials and Methods: With IRB approval and informed consent we included 86 of the planned total of 200 children of both genders, aged 0-17 years, 5-50kg, ASA physical status I-II, scheduled at the University Hospital of Bern for elective surgery under general anaesthesia. Anesthesia was induced with sevoflurane or propofol. Time to insert the device was measured from the moment to insertion of the larynx to the realization of caudal neuroaxial block with the child in the lateral decubitus position.

Conclusion(s): Adjustment of the head and neck position often allows optimizing poor ventilation with supraglottic devices. This preliminary study suggests that the i-gel® is a reliable airway device at five different head and neck positions in the paediatric population. Its position undergoes a small modification in the rotated position. This is of particular interest for the paediatric anaesthesiologists, since many of the anaesthetic techniques involve the realization of caudal neuroaxial block with the child in the lateral decubitus position.