ICP
5
4
Obstruction
3
Craniosynostosis
2
1
...Lun
53.3, p<0.001).
involvement was more common in children with craniosynostosis patients’ in...iner symptoms, craniofacial association, multisutural, and location of suture fusion.
Additional clinical characteristics examined included demographics and comorbid neurallogic and craniofacial abnormalities.

Results

Objective

1) Characterize the spectrum of airway anomalies in patients with craniosynostosis.
2) Identify clinical characteristics of these patients that may be associated with the development of airway anomalies.

Method

• Retrospective case series of all patients with craniosynostosis seen at a tertiary-care children’s hospital between 2000 and 2016.
• Cohort analyses of airway anomalies dependent on syndromic associations, multisutural, and location of suture fusion.
• Additional clinical characteristics examined included demographics and comorbid neurallogic and craniofacial abnormalities.

Conclusion and Future Work

• Airway anomalies are prevalent in patients with craniosynostosis.
• Patients with SCS and MSC have an even greater risk of having comorbid airway disorders.
• Findings of increased ICP, hydrocephalus, Chiari malformation, and comorbid facial abnormalities should further lower threshold for referral for airway evaluation.
• Future directions include observing the effects of surgical repair of craniosynostosis on the symptomatology of comorbid airway issues.

Airway Anomalies in Patients with Craniosynostosis
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Background

Craniosynostosis is described as the premature fusion of one or more cranial sutures and occurs in 1 in 2000 births. Consequent neurodevelopmental and craniofacial aberrations could increase these patients’ risk for airway anomalies as craniosynostosis has been described to occur with various airway disorders; particularly high rates of respiratory difficulty and airway abnormalities are evident in patients with syndrome craniosynostosis.3,6

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Table 1. Airway Disorders

<table>
<thead>
<tr>
<th>Overall (n=496)</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMCP</td>
<td>34.1% (169)</td>
</tr>
<tr>
<td>OSA</td>
<td>14.5% (72)</td>
</tr>
<tr>
<td>Adenotonsillar Hypertrophy</td>
<td>13.3% (66)</td>
</tr>
<tr>
<td>VPI</td>
<td>11.7% (58)</td>
</tr>
<tr>
<td>Laryngomalacia</td>
<td>8.9% (44)</td>
</tr>
<tr>
<td>Tracheomalacia</td>
<td>7.3% (38)</td>
</tr>
<tr>
<td>Rhinologic</td>
<td>5.2% (26)</td>
</tr>
<tr>
<td>Epiglottic</td>
<td>2.0% (10)</td>
</tr>
<tr>
<td>Fetal</td>
<td>7.1% (35)</td>
</tr>
<tr>
<td>Ankyloglossia</td>
<td>6.5% (32)</td>
</tr>
<tr>
<td>Cleft Palate</td>
<td>5.0% (25)</td>
</tr>
<tr>
<td>Sleep-Disordered Breathing</td>
<td>4.2% (21)</td>
</tr>
<tr>
<td>Bronchomalacia</td>
<td>4.0% (20)</td>
</tr>
<tr>
<td>Laryngeal</td>
<td>3.8% (19)</td>
</tr>
<tr>
<td>Choanal Stenosis</td>
<td>2.9% (14)</td>
</tr>
<tr>
<td>Vocal Fold</td>
<td>1.6% (8)</td>
</tr>
<tr>
<td>Vocal Fold Nodules</td>
<td>1.4% (7)</td>
</tr>
<tr>
<td>Lingual Hyperplasia</td>
<td>1.0% (5)</td>
</tr>
<tr>
<td>Glottal</td>
<td>0.8% (4)</td>
</tr>
<tr>
<td>Tracheoesophageal Fistula</td>
<td>0.6% (3)</td>
</tr>
<tr>
<td>Pharyngeal Collapse/Hypoponisia</td>
<td>0.6% (3)</td>
</tr>
<tr>
<td>Choanal Atresia</td>
<td>0.2% (1)</td>
</tr>
</tbody>
</table>

References


Abbreviations:
MSC, multisutural craniosynostosis; SCS, syndromic craniosynostosis; SMCP, submucous cleft palate; OSA, obstructive sleep apnea; VPI, velopharyngeal insufficiency; BOT, base of tongue; ICP, intracranial pressure