SUPRAGLOTOPLASTY FOR LARYNGOMALACIA
INDUCED OBSTRUCTIVE SLEEP APNOEA (OSA) IN CHILDREN
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Objective

• To determine if supraglottoplasty can improve OSA in children that have laryngomalacia and OSA prior to surgery.

Methods

• A retrospective case note review of all children who underwent supraglottoplasty for laryngomalacia and OSA (May 2016-December 2017) by a single Paediatric ENT Surgeon in a tertiary referral centre was performed (n=7).

  Primary outcome measure was improvement of OSA based on overnight oximetry and polysomnography (PSG) results. Oxygen Desaturation Index (ODI) and SpO2 nadir was recorded for pulse oximetry and Apnea Hypopnea Index (AHI) and SpO2 nadir for PSG.

  Secondary outcome measures were perceived parental benefit and additional surgical treatment required.

Results

• All patients had pre-operative symptoms of apneic events and stridor.

• Mean age at time of surgery was 15 months. Mean tonsil size was grade III.

<table>
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<tr>
<th>Procedure</th>
<th>Aryepiglottic (AE) fold division</th>
<th>AE fold division and excision of excess mucosal tissue on arytenoid cartilage</th>
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<tbody>
<tr>
<td>Number of patients</td>
<td>3</td>
<td>4</td>
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• 57% (n=4) did not have improvement of symptoms as perceived by parents. 43% (n= 3) had resolution of symptoms.

• 86% (n=6) had post-operative sleep studies (5 oximetry, 1 PSG).

• In the asymptomatic group, sleep study results were all normal.

• In the symptomatic group, oximetry results remained abnormal with the mean ODI of 21.5 and mean SpO2 nadir of 77%. The patient who had a PSG had an AHI of 43.2 and SpO2 nadir 60%.

• 4/7 children went on to have adenotonsillectomy due to persistent OSA.

• 1/7 had adenotonsillectomy done at the same time as primary supraglottoplasty.

Conclusion

• Although supraglottoplasty can improve OSA in some cases, adenotonsillectomy is additionally required in order to resolve OSA even in a very young patient group with laryngomalacia.