A Year in Review: A Retrospective Analysis of Tracheotomies and Adenotonsillectomies

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A Year in Review: A Retrospective Analysis of Tracheotomies and Adenotonsillectomies

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BACKGROUND / INTRODUCTION

- Each year, over 100,000 tracheotomy procedures are performed and 38.8 percent of cases involving children under the age of 18 experience some sort of complication resulting from the procedure1,2
- In children under the age of fifteen, 530,000 tonsillectomies with or without adenoidectomies are performed each year3
- With a success rate of 79 percent, tonsillectomies are used for the treatment of sleep apnea due to obstructive breathing patterns during sleep4

Purpose: Our goal is to determine the complications and outcomes associated with adenotonsillectomy and tracheotomy procedures to provide safer clinical outcomes as well as transparency for the expectations of patients and their families

METHODS

- Created protocol and code book for both adenotonsillectomies and tracheotomies
- Submitted for electronic Institutional Review Board approval for a quality improvement project
- Retrospective chart review of 103 adenotonsillectomy patients using EPIC database
- Review of tracheotomy patient reports tracked by the National Surgical Quality Improvement Program (NSQIP)
- Analysis of 30 day outcomes including complication rates, efficacy, and risk factors associated with higher complication rates

RESULTS

Table 1. Risk Factors Rates for Tracheotomy Complications

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>LVHN Data N (%)</th>
<th>National Data N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prematurity (birth &lt; 37 weeks gestation)</td>
<td>5 (71.4)</td>
<td>112 (54.4)</td>
</tr>
<tr>
<td>Pulmonary risk factors</td>
<td>7 (100.0)</td>
<td>203 (98.5)</td>
</tr>
<tr>
<td>Gastrointestinal disease</td>
<td>5 (71.4)</td>
<td>109 (52.9)</td>
</tr>
<tr>
<td>Cardiac</td>
<td>2 (28.6)</td>
<td>52 (25.2)</td>
</tr>
<tr>
<td>Major</td>
<td>1 (14.3)</td>
<td>76 (36.9)</td>
</tr>
</tbody>
</table>

Figure 1. Comparison of Tracheotomy Complications at LVHN to National Standard

Figure 2. Postoperative Adenotonsillectomy Complications

Figure 3. Sleep Study Improvements

CONCLUSIONS/FUTURE STUDIES

- Although the complications from tracheotomies appear much higher at LVHN compared to the national standard, our study is limited by the small amount of tracheotomies performed at LVHN
- Pulmonary risk factors, prematurity, and cardiac risk factors were indicative of higher complication rates and longer hospital stays among patients with tracheotomies
- Despite high rates of readmission and ED visits, patients receiving adenotonsillectomies only required reoperation in less than 1% of cases compared to the national average of 4%5
- Further review will provide a better statistical representation surgical outcomes
- To decrease the amount of postoperative complications, future studies regarding the implementation of different or additional medication may be conducted

References
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