PROFILE OF CHILDREN IN RISK OF NEW SURGICAL INTERVENTION DUE TO OTITIS MEDIA WITH EFFUSION

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without conflicts of interest to declare
1. INTRODUCTION
Otitis Media With Effusion (OME)

- Presence of middle ear effusion without active acute infection, with a non-perfurated tympanic membrane

- Most common cause of hearing loss in children

- Few symptoms associated

Epidemiology

- Until 10 years old, 90% at least have 1 episode
- The majority is solved within 3 months, but 5 to 10% lasts 1 or more years
- 30 to 40% of the children have recurrent OME

Main Aim

➢ To identify the risk factors for children receiving additional myringotomy with TVT after the first one.
2. METHODS
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Methods

- Retrospective analysis of medical records
- 6 Years - January 2009 to December 2014
- Young patients (age < 18) who underwent mTVT because of OME – 2 Groups

- **mTVT indications:**
  - Bilateral – OME > 3 months
  - Unilateral – OME > 6 months

- **Studied Variables:**
  - age of 1st mTVT
  - concomitant adenoidectomy
  - estimated indwelling period of TVT
  - postoperative otorrhea (1st mTVT)
  - perioperative upper airway recurrent infections
  - history of allergies
  - preoperative eosinophilia
  - postoperative complications

**Study Group (SG)**
- ≥ 2 mTVT
  - 28 children
  - 55 ears

**Control Group (CG)**
- 1 mTVT
  - 55 children
  - 97 ears

**Exclusion Criteria:**
- Age > 18y
- Syndromic Children (Down’s syndrome ...)
- Craniofacial anomalies
- Cleft Palate
- Perfurred Chronic Otitis Media

Statistical Analysis with SPSS®v.22
P values of <.05 were statistically significant
3. RESULTS & DISCUSSION
Results

Total Patients: \( n = 83 \)
Total Ears: \( n = 152 \)
## Results

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>CG</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients (n)</strong></td>
<td>28</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td><strong>male - % (n)</strong></td>
<td>60.7%</td>
<td>52.7%</td>
<td>NS*</td>
</tr>
<tr>
<td><strong>female - % (n)</strong></td>
<td>39.3%</td>
<td>47.3%</td>
<td></td>
</tr>
<tr>
<td><strong>Concomitant Adenoidectomy at 1st mTVT - % (n)</strong></td>
<td>93%</td>
<td>98.2%</td>
<td>NS*</td>
</tr>
<tr>
<td><strong>Ears (n)</strong></td>
<td>55</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td><strong>Mean indwelling period of 1st mTVT - months</strong></td>
<td>9.1</td>
<td>12.1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td><strong>No. of mTVT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2x - % (n)</strong></td>
<td>82%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>3x - % (n)</strong></td>
<td>18%</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

* ✔ √ the mean age of the 1st mTVT and the mean indwelling period of TVT are significantly associated to another mTVT

** - χ²-test
** - t-test
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**Perioperative upper airway recurrent infections**

- SG: 64%
- CG: 40%

\[ p = 0.036^* \]

**Postoperative otorrhea**

- SG: 56%
- CG: 12%

\[ p < 0.001^* \]

* - \( \chi^2 \)-test

✓ the postoperative otorrhea and the perioperative upper airway tract recurrent infections are significantly associated to another mTVT
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Historically, allergies in children are 39% and 20% (SG: NS*, CG: 20%)

Preoperative eosinophilia: 39% (SG: NS*, CG: 36%)

Postoperative complications: 15% (SG: p<0.001**, CG: 10%)

Eosinophilia >400 cells/mm³

Postoperative complications after the 1st mTVT are significantly associated to children who need another mTVT

Is there any risk factor that can lead to re-intervention?

**Binary logistic regression**

- **Risk Factor**
  - Age of 1st mTVT
  - Perioperative upper airway recurrent infections

- **Protective Factor**
  - TVT extrusion in less than 12 months
  - Absence of postoperative otorrhea

### Odds Ratio (95% CI)

- **TVT extrusion in less than 12 months**
  - 0.23 (0.05-1.08) *p*=0.05*

- **Absence of postoperative otorrhea**
  - 157 (14-174.2) *p*<0.001*

- **Age of 1st mTVT**
  - 0.59 (0.10-3.47) *p*=0.59 - NS

- **Perioperative upper airway recurrent infections**
  - 1.21 (0.85-1.74) *p*=2.93 - NS

### R² Nagelkerke = 68.5%
4. CONCLUSION
Conclusion

The profile of children who are at risk of new mTVT due to OME:
- TVT extrusion in less than 12 months
- Postoperative otorrhea

- Children who need new mTVT are statistically associated to more postoperative complications
THANK YOU FOR YOUR ATTENTION