Acute Otitis Media – A Reliable Warning Sign For Primary Immunodeficiencies? - A Critical Appraisal
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Introduction
Acute otitis media (AOM) is the most common infection in childhood, resulting from both anatomic and immunologic specifics of this age group. Primary immunodeficiencies are a group of heterogeneous, rare, genetic disorders that affect distinct components of the innate and adaptive immune system. Recurrent AOM has been defined as one of the warning signs for primary immunodeficiency diseases (PID), requiring further diagnostic evaluation.

Methods
Retrospective study (August 2010 - December 2013) which included all patients referred to PID appointment because of recurrent AOM (≥ 8 AOM episodes/year). Syndromatic patients or those presenting with another warning sign for PID were excluded. Clinical, demographic and laboratory results were analyzed and statistical analysis was made using SPSS 20.

Aims: To evaluate the strength of recurrent AOM as clinical predictor of PID

Results

**PID FIRST APPOINTMENTS (August 2010 - December 2013) n=500**

<table>
<thead>
<tr>
<th>Recurrent AOM (≥ 8 AOM episodes/year)</th>
<th>Personal History</th>
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<tr>
<td>Other comorbidities were present in 20% of the patients</td>
<td>Allergology disease n=18 (24%)</td>
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17% had ORL surgery prior to PID referral

**IMMUNOLOGIC SCREENING**

- Immunoglobulin Isotypes (IgA, IgM, IgG)
- Diphtheria/tetanus serology
- Polysaccharide antibody
- Complement
- Lymphocyte immunophenotyping

**PIED DIAGNOSIS n=12 (16%)**

**HUMORAL IMMUNODEFICIENCIES (n=10)**
- Selective IgA deficiency n=7
- Polysaccharide antibody deficiency n=2
- IgA + Polysaccharide antibody deficiencies n=1

**COMPLEMENT DEFICIENCIES (n=2)**
- C1q deficiency n=1
- Protein H deficiency n=1

**Is acute otitis media a reliable warning sign for primary immunodeficiencies?**

**DEMOGRAPHIC CHARACTERISTICS**

- Mean age of first appointment - 37.8± 29.5 M (Min- 6 M; Max– 14 Y)
- 62.7% (n=47) had personal or family history of other infections
- 37.3% (n=28) had personal or family history of allergy

**Prophylaxis with cotrimoxazol:**
- n= 9 (12%)

**PID DIAGNOSIS n=12 (16%)**

**Personal or Familiar antecedent of infection or auto-immunity**

<table>
<thead>
<tr>
<th>PID</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>63</td>
<td>15</td>
<td>48</td>
<td>63</td>
</tr>
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</table>

Average length of follow-up 11.2 months

The majority of patients diagnosed with PID, besides recurrent AOM had personal or family history of other infections or autoimmunity

Conclusion
Despite being a very frequent cause of immunologic screening, recurrent AOM was not found to be a good predictor of PID, unless patients present other significant personal or family history.

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References: