

The Ear

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- Otitis media with effusion is rarely caused by allergy to food.
- Allergic inflammation in the nasal mucosa, mainly due to IgE-mediated reactions to foods, may cause eustachian tube dysfunction and subsequent otitis media with effusion.
- Inflammatory mediators from the nasal mucosa transported via the nasal mucociliary system may cause eustachian tube dysfunction.

Key words: Otitis media, food allergy

Otitis media with effusion

Otitis media with effusion (OME) has been reported in 23-83% of patients referred to allergy evaluation, especially in patients with allergic rhinitis or allergic asthma (5). This wide range may be due to differences in the definition of allergy, OME, and in study design.

In a review on the role of IgE-mediated hypersensitivity in development of OME it was concluded that recurrent OME is associated with allergic rhinitis in about 1/3 of the studied population (1). Among patients with allergic rhinitis and OME the vast majority suffers from allergy against inhalant allergens. Only in a small proportion is OME and allergic rhinitis caused by *food allergy*, especially against dairy products, and particularly in children below the age of two years (1).

The underlying mechanism of OME in association with allergic rhinitis has not been completely clarified. However, in the great majority of children with OME and allergic rhinitis the middle ear mucosa is not the target organ. Rather, OME develops due to eustachian tube dysfunction caused by allergic (mainly IgE-mediated) reactions in the nasal mucosa. There is some evidence that inflammatory mediators from the nasal mucosa are transported via the nasal mucociliary system to the nasopharyngeal orifice of the eustachian tube (1).

In a subgroup of young children with OME an effect of *elimination diets*, (especially milk-free diet) has been reported (6, 7). Similarly, in adults with refractory serous otitis media about 1/3 resolved on appropriate *elimination diets* in contrast to no effect in controls without allergy (2).

During the first two years of life recurrent OME is significantly associated with the following risk factors: Exposure to tobacco smoke; short duration of breast feeding (< three months); supine feeding, group day care (4). Other risk factors for recurrent otitis media are: Male gender; sibling or parent history of severe or recurrent ear infections; early age at time of initial episode of otitis media and altered host defense (anatomical, physiological or immunologic) (3).

Recurrent otitis media

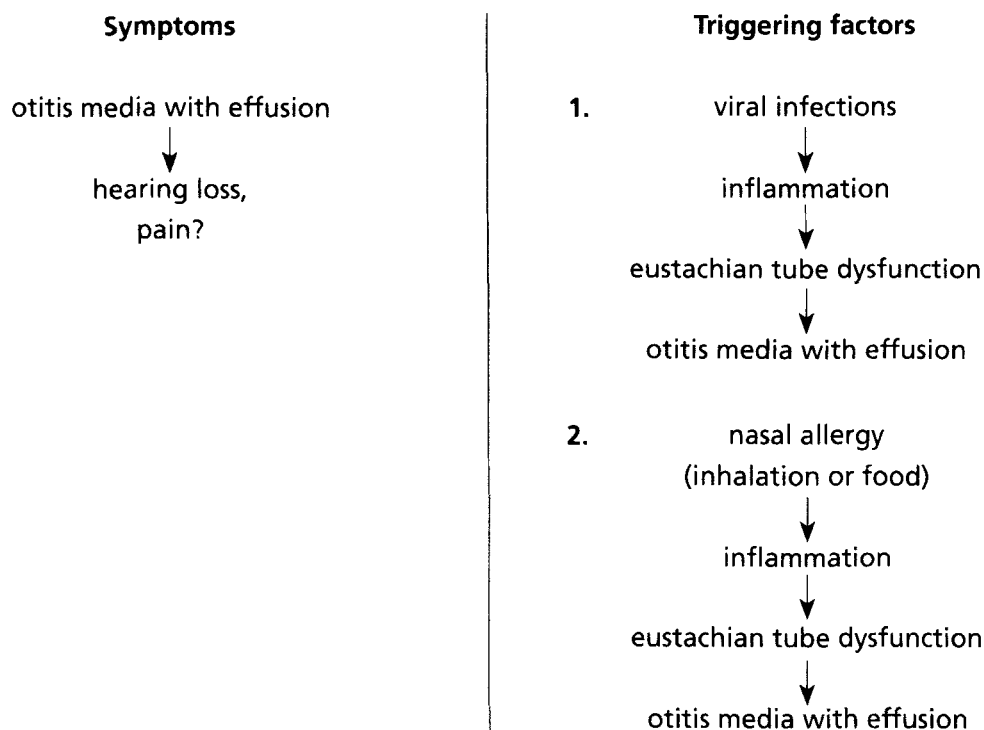
In children with recurrent otitis media a higher total IgE at one year of age and a higher total IgM at three years has been reported (8). Furthermore an increased titer of IgM beta-lactaglobulin antibodies was found. Although these findings may suggest that immunological mechanisms may play a role in recurrent otitis media, the findings may also mainly reflect an increased immunologic response to infectious agents.

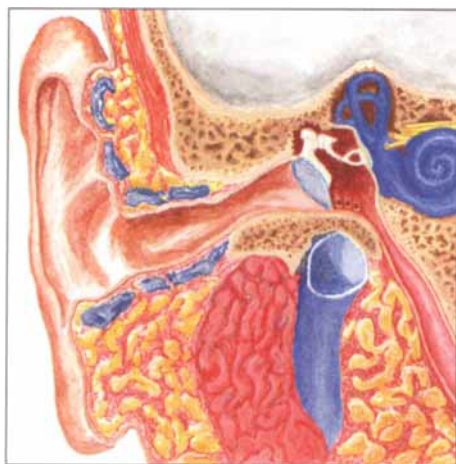
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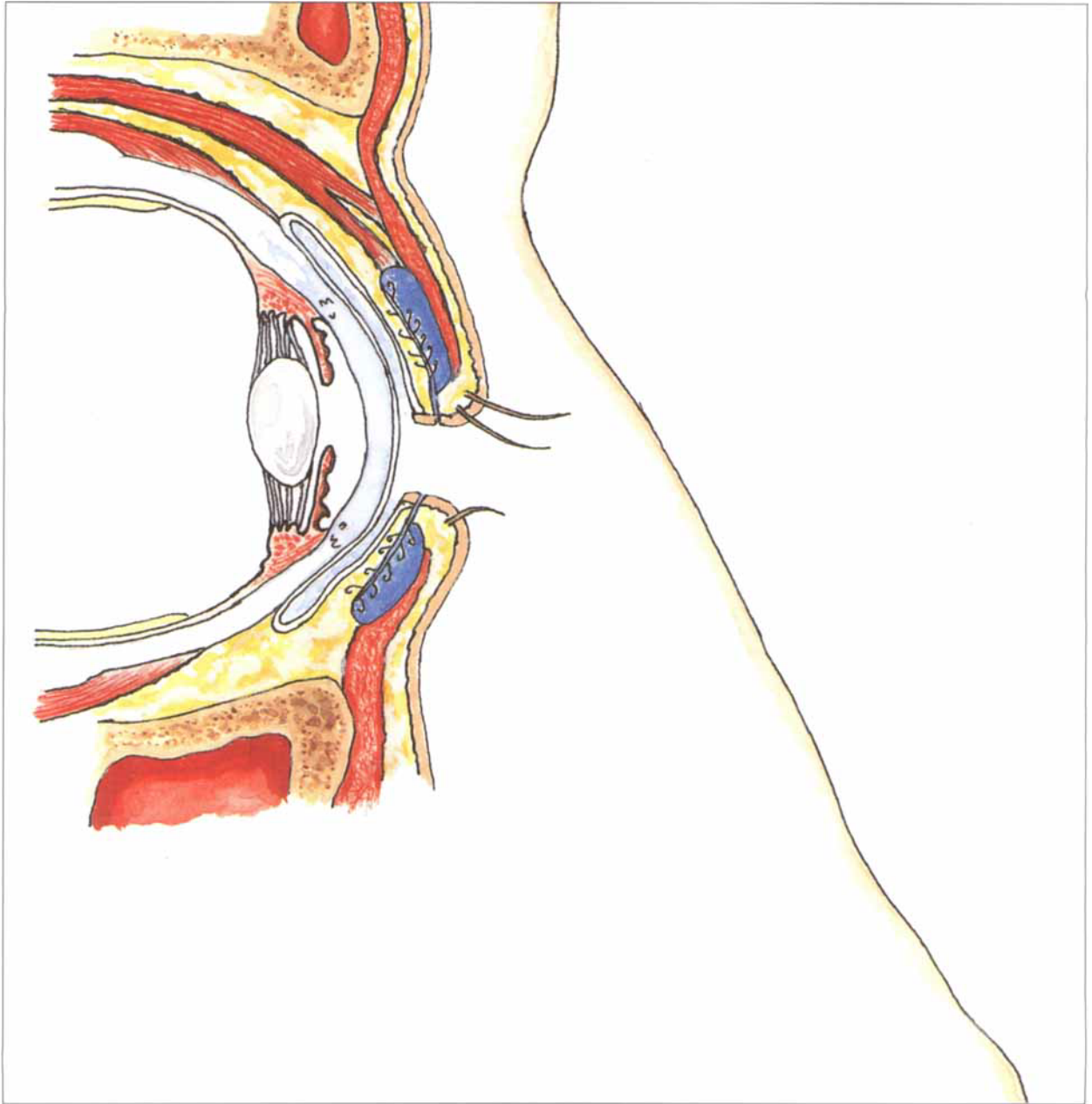
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