This study investigated the association of objectively determined OME at age 6 with asthma, eczema, allergic and nonallergic rhinitis, nasal inflammation, and eosinophilia.

STUDY POPULATION. A single-center birth cohort of 262 children born to asthmatic mothers from the Copenhagen Prospective Study on Asthma in Childhood study were assessed during their sixth year of life for OME.

METHODS. OME was diagnosed on the basis of otoscopic findings and tympanometry. Nasal patency was assessed twice, in and out of the pollen season, using wideband nasal acoustic rhinometry. Nasal scrapings were obtained and stained for eosinophils.

Atopic comorbidity was assessed by using standardized guidelines for asthma, allergic rhinitis, nonallergic rhinitis, and eczema. Allergic rhinitis was suspected via a history of sneezing or a blocked or runny nose after exposure to relevant allergens. Allergic sensitization was confirmed by serum-specific immunoglobulin E levels ≥0.35 kU/L as determined by ImmunoCAP (Pharmacia Diagnostics, Uppsala, Sweden) for any of the common allergens (cat, dog, horse, birch, grass, mugwort, dust mite, and molds). Potential confounders were identified including pet exposure, parental atopy, household income, tobacco smoke exposure at birth, siblings, and gender.

RESULTS. OME was identified in 39% (102 of 262) of patients. OME was associated with concomitant allergic rhinitis (adjusted odds ratio = 3.36, P = .02) but not with nasal mucosal swelling, nasal eosinophilia, nonallergic rhinitis, asthma, or eczema. There was no correlation between pollen season and OME (P = .48).

CONCLUSIONS. OME is common in children born to asthmatic mothers. The presence of allergic rhinitis in the subjects significantly increased the risk of OME.

REVIEWER COMMENTS. Previous studies that have looked for an association between atopy and middle ear disease have been criticized for inconsistent definitions of OME and allergy. Many of these used questionnaires or physician subjective diagnoses and were therefore subject to bias. This study’s major strength lies in its objective measurements for OME and allergic rhinitis. The authors conclude that allergic rhinitis significantly increases the risk of having OME. This study suggests that obstruction of the eustachian tubes is not the primary mechanism leading to the development of OME; rather, the effusion appears to result from allergic inflammation of the respiratory epithelium, including the middle ear mucosa. This suggests that additional studies are needed to determine if “antiinflammatory agents” used for allergic diseases could play a role in the treatment or prevention of middle ear effusion.

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Seasonal Variability in Paediatric Obstructive Sleep Apnoea


PURPOSE OF THE STUDY. To examine the seasonal effect on the incidence and severity of obstructive sleep apnea (OSA) in children. Pediatric obstructive sleep apnea is primarily due to adenotonsillar hypertrophy. Allergy and viral respiratory infections may contribute to OSA by promoting adenotonsillar growth.

STUDY POPULATION. Two hundred fifty-seven Australian children aged 3 to 12 years were referred for assessment of suspected OSA. All underwent overnight polysomnography (PSG).

METHODS. Clinical analysis of the PSG data were scored according to standard criteria. The obstructive apnea hypopnea index (OAHI) was defined as the total number of obstructive apneas, mixed apneas, and obstructive hypopneas per hour of total sleep time. Children were divided into 3 groups by OSA severity: primary snoring (OAHI <1), mild OSA (OAHI 1–5), and moderate/severe OSA (OAHI >5). Data from each subject was grouped into the season in which it was obtained; summer: December to February; autumn: March to May; winter: June to August; spring: September to November.

RESULTS. Although the summer season had the fewest number of PSG performed because the unit was closed for the summer holidays, there was not a statistical difference in the average number of PSGs performed. OAHI values were significantly higher during winter (5.1 ± 0.8 events per hour) and spring (4.6 ± 0.9 events per hour) compared with autumn (2.4 ± 0.8 events per hour; P < .01 and P < .05, respectively) and summer (2.0 ± 0.5 events per hour; P < .05 for both). A significantly higher proportion of children were categorized with moderate/severe OSA during winter compared with autumn (P < .05).

CONCLUSIONS. The authors point out that seasonal variation may play a role in OSA severity. They noted that OAHI values were higher when PSG was performed during winter and spring season compared with values obtained during autumn and summer. The severity of OSA may be affected by the season in which PSG is performed. For those patients with borderline results when PSG was obtained during spring of autumn, their OSA symptoms may be more severe if PSG was performed during the winter months. The authors speculate that viral illnesses, which are more common during the winter season, contribute to adenotonsillar hypertrophy and would lead to more severe symptoms of OSA.
The Role of Antibiotics in the Treatment of Acute Rhinosinusitis in Children: A Systematic Review


PURPOSE OF THE STUDY. To provide a systematic review of the current evidence for the efficacy of antibiotics compared with placebo in the treatment of acute rhinosinusitis in children.

METHODS. The authors searched Medline, Embase, and Cochrane Register for randomized controlled studies investigating the efficacy of antibiotics compared with children for treatment of acute sinusitis or acute rhinosinusitis for children between 1 and 18 years of age.

RESULTS. Ninety-six articles were identified in the search, with 84 articles being excluded for various reasons including not being a randomized controlled trial, not including children, not studying acute rhinosinusitis, not comparing antibiotics versus placebo, and/or repeat citation. Twelve studies were included for full text scrutiny with only 4 studies fulfilling selection criteria. The results of the meta-analysis suggest a benefit for those participants treated with antibiotics odds ratio 2.0 (95% confidence interval 1.16–3.47). Analysis is weakened by the low number of randomized controlled trials. Risks for internal bias were thought to be small, but external bias appeared significant. External bias included exclusion of patients with more severe disease, usage of ancillary medications and or saline nasal rinses, and differing antibiotics and varying age range.

CONCLUSIONS. Despite the positive findings of the statistical analysis favoring antibiotics for acute rhinosinusitis in children, the authors conclude that routine treatment with antibiotics remains uncertain. Gastrointestinal adverse reactions were nearly 3 times more common in those children treated with antibiotics compared with placebo. Children treated with placebo did not experience significant complications.

REVIEWER COMMENTS. This study reminds clinicians who interpret PSG that children may be more symptomatic with OSA during the winter and spring season. Consideration of repeating tests performed during summer and fall seasons may be helpful for children who have borderline results.


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The Role of Staphylococcal Enterotoxin in Atopic Keratoconjunctivitis and Corneal Ulceration


PURPOSE OF THE STUDY. To determine whether staphylococcal enterotoxin (SE) has a role in the pathogenesis of atopic keratoconjunctivitis (AKC) and corneal ulceration

STUDY POPULATION. Forty-five subjects were enrolled (18 with AKC, mean age 16.9 years; 9 with vernal keratoconjunctivitis [VKC], mean age 12.9 years; 10 with seasonal allergic conjunctivitis [SAC], mean age 21.9 years, and 8 healthy volunteers, mean age 21.6 years).

METHODS. Upper tarsal conjunctiva, lower conjunctival sac, and upper lid margin skin were swabbed for bacterial cultures done once in all subjects. Culture material was used for detection of 8 superantigen genes (SEA, B, C, D, G, H, I, and tsst-1), staphylococcal coagulase gene, and protein A gene with amplification by polymerase chain reaction.

RESULTS. Among with 45 subjects (adolescents and older), Staphylococcus aureus was detected in 15 with AKC (83%), 3 with VKC (33%), 1 with SAC (10%), and 0 in healthy volunteers. S. aureus was detected in similar percentages from the various sites examined (24%–38%). Superantigen genes were detected in 7 subjects with AKC (39%) and 1 with VKC (11%). There were no significant differences in SE detection according to location. Corneal ulcers were observed in 7 AKC subjects (39%) and 3 VKC subjects (33%) but no in SAC subjects or healthy volunteers. Among 27 patients with AKC and VKC, SE was detected in 6 of 10 subjects (60%) with corneal ulcers and 2 of 17 subjects (12%) without corneal ulcers. Among 18 AKC subjects, SE was detected in 5 of 7 subjects (71%) with corneal ulcers and 2 or 11 subjects (18%) without corneal ulcers.

CONCLUSIONS. In patients with a severe type of ocular allergic disease (AKC), S. aureus and SE were detected between a viral URI versus acute bacterial rhinosinusitis. Acute bacterial sinusitis is more likely when the presentation includes persistence of symptoms beyond 10 days, severe symptoms including fever ≥102° with purulent nasal discharge, facial pain lasting 3 to 4 days at the beginning of the illness, or worsening symptoms after a typical URI that lasted for 5 to 6 days with new onset of fever, headache, or increased nasal discharge. It is important to remember that a small percentage of URIs (5%–13%) become complicated by bacterial rhinosinusitis.

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