scores to differentiate pediatric patients with and without CRS based on radiographic criteria. Based on these data and analysis, we can use the CT scan to discriminate between children with and without CRS. Nevertheless, the positive and negative predictive values of this test are substantially dependent on the prevalence of CRS, and this must be factored into clinical decision-making. This study highlights the fact that CRS is primarily a clinical diagnosis, and both the decision to perform a sinus CT and the interpretation of the scan should include this clinical context.

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EFFECTIVENESS OF ADENOTONSILLECTOMY IN CHILDREN WITH MILD SYMPTOMS OF THROAT INFECTIONS OR ADENOTONSILLAR HYPERTROPHY: OPEN, RANDOMISED CONTROLLED TRIAL


Purpose of the Study. To evaluate the effectiveness of adenotonsillectomy in children with a small number of recurrent sore throat infections or with mild obstructive symptoms from adenotonsillar hypertrophy.

Study Population. Three hundred otherwise healthy children in the Netherlands, aged 2 to 8 years, who were being considered for adenotonsillectomy to treat recurrent throat infections or obstructive symptoms. Excluded from the study were children with frequent throat infections (>7 in the past year, ≥5 in each of the past 2 years, or ≥3 in each of the past 3 years), children with suspected obstructive sleep apnea (as indicated by a Brouillette score of >3.5), and children with craniofacial anomalies, Down syndrome, and certain immunodeficiencies.

Methods. Subjects were randomized to receive surgical intervention with adenotonsillectomy within 6 weeks or observation. Patients were followed at regular intervals for 2 years, and outcomes were assessed by review of disease-specific diaries and quality-of-life surveys. The primary outcome measure was incidence of fever; secondary outcomes were frequency of sore throats, upper respiratory infections, school or day care absence resulting from upper respiratory infection, health-related quality of life, sleeping and eating patterns, height, and weight.

Results. Over a mean follow-up period of 22 months, children in the adenotonsillectomy group compared with children in the watchful-waiting group as follows: 2.97 fevers per person-year compared with 3.18 (difference: −0.21, 95% confidence interval [CI]), 0.56 throat infections compared with 0.77 (difference: −0.21, 95% CI), and 5.47 upper respiratory tract infections compared with 6.00 (difference: −0.53, 95% CI). The subgroup of patients with 3 to 6 throat infections in the preceding year did show more pronounced results than the subgroup of 0 to 2 infections. Health-related quality-of-life scores revealed no clinical differences at 2 years. The Brouillette score of obstructive sleep apnea was lower in the group receiving surgery after 6 months but not at 24 months.

Conclusions. Adenotonsillectomy in young children with mild symptoms of sore throat or adenotonsillar hypertrophy has no major clinical benefit after 2 years of follow-up.

Reviewers’ Comments. Adenotonsillectomy is one of the most common surgical procedures performed on children, and these authors noted a tonsillectomy rate in the Netherlands more than twice that seen in the United States. The children in this study do not have the well-established indications for adenotonsillectomy, namely very frequent pharyngitis or documented obstructive sleep apnea. It is certainly not a new concept that only modest benefits are afforded by adenotonsillectomy to children “moderately affected” by throat infection (see Pediatrics. 2002;110:7–15). This study supports continued use of well-defined severity criteria to select children for treatment with adenotonsillectomy, because sustained major benefits of surgery were not demonstrated in children with mild illnesses. However, more than 34% of the children randomized to observation in this study underwent adenotonsillectomy during the follow-up period. The analysis of outcomes was performed based on initial randomization, not on the eventual treatment. We are also concerned that children with mild obstructive symptoms of adenotonsillar hypertrophy may have upper airway resistance or obstructive sleep apnea of physiologic consequence. These children may need additional evaluation and/or consideration for adenotonsillectomy to avoid complications of upper airway obstruction.

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SIMILAR ALLERGIC INFLAMMATION IN THE MIDDLE EAR AND THE UPPER AIRWAY: EVIDENCE LINKING OTITIS MEDIA WITH EFFUSION TO THE UNITED AIRWAYS CONCEPT


Purpose of the Study. To determine if the middle-ear compartment may be a component of the united airways in allergic disease by comparing the inflammatory profiles of the middle ear to the upper airway.

Study Population. Children (aged 2–18 years) undergoing myringotomy, tympanostomy tube placement, and adenoidectomy were recruited prospectively and consecutively for the study. All children had documented conductive hearing loss, flat tympanograms, and middle-ear effusions that persisted for >3 months and were unresponsive to antibiotics and symptomatic nasal obstruction caused by adenoid hypertrophy.

Methods. Middle-ear effusions, torus tubarius (eustachian tube mucosa at the nasopharyngeal orifice), and adenoidal tissue biopsies were obtained from 45 patients undergoing simultaneous tympanostomy tube placement for otitis media with effusion (OME) and adenoidectomy for adenoid hypertrophy. The cellular and cytokine profiles of each site were investigated by using immunocytochemistry (elastase, CD3, major basic protein) and in situ hybridization (interleukin [IL]-4, IL-5, interferon [IFN]-γ mRNA). Allergic sensitization to 12 common perennial and seasonal airborne allergens was determined with skin-prick testing.

Results. Of the 45 patients with OME, 11 (24%) were atopic. The middle-ear effusions of atopic patients had significantly higher levels of eosinophils, T lymphocytes, and IL-4 mRNA+ cells (P < .01) and significantly lower levels of neutrophils and IFN-γ mRNA+ cells (P < .01) compared with nonatopic patients. The nasopharyngeal tissue biopsies revealed similar cellular and cytokine profiles.

Conclusions. In atopic patients with OME, the allergic inflammation occurs on both sides of the eustachian tube,
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