

Middle ear surgery in patients with allergic rhinitis: special attention

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Key words: allergic rhinitis; middle ear surgery; tubal dysfunction.

Allergic rhinitis is becoming one of the leading factors in the aetiology of Eustachian tube dysfunctions (1).

Nasal inflammation due to allergen challenge results in classic signs and symptoms of allergic rhinitis and Eustachian tube dysfunction, leading to increased negative pressure and improper ventilation in the middle ear (2, 3).

Those patients who have to undergo middle ear surgery may suffer from allergic rhinitis. An allergic relapse in patients recently submitted to middle ear surgery can have serious consequences, like an increased risk of barotraumas after minimal pressure changes (diving, post-operative air travels) and an operation failure because of recurrent acute or chronic middle ear ventilation impairment (4).

Even in the best super-specialized ear clinics, most allergic patients with middle ear diseases undergo middle ear surgery without a complete assessment of the rhino-pharyngeal-tubal unit and possible allergic conditions. We conducted a revision of the most important studies published in the last years on outcomes in middle ear surgery; surprisingly, nobody considered the presence of allergic rhinitis either as an exclusion criteria, or as an

influencing factor on middle ear surgery results, or as a pathology to be treated before (5–8).

We deem that allergic patients candidate to middle ear surgery have to be followed by an equipe of ENT doctors and allergologists, to prepare them to surgery in order to achieve better results.

We know that in the most successful case histories of tympanoplasty, the post-tympanoplastic flap takes root at a rate of almost 90%, and the prevalence of allergic rhinitis ranges from 9 to 42% (9). In our experience, most cases of failure occurred in patients with tubal dysfunction for chronic nasal obstruction. Allergic rhinitis is one of the main causes of chronic nasal obstruction. It is possible that most failures in tympanoplasty are due to an underestimated allergic rhinitis, isn't it?

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Accepted for publication 7 February 2003
Allergy 2004; 59:465
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Occurrence of atopy among Russian and Finnish schoolchildren

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Key words: allergy; atopy; children; Finland; Russia.

A number of studies from recent years have provided evidence that the prevalences of atopy and atopic disorders differ substantially

between countries, even between areas that are geographically adjacent (1–4). These

differences have been explained partly by genetic factors and, more importantly, by factors associated with environment and lifestyle. We found earlier that the occurrence of atopy among adults was significantly lower in Russian Karelia as compared with North Karelia in Finland (4). The two study areas are located geographically next to each other, but

Occurrence of atopy is low among Russian as compared with Finnish school children.

differ crucially in major socioeconomic, lifestyle, cultural and political aspects. No data, however, exist on atopy prevalence among Russian children as compared with children in Finland.

We studied the occurrence of atopy among schoolchildren, aged 7–9 years, from three randomly selected school classes in Helsinki, Finland ($n = 104$, 44% boys), and in Petrozavodsk, Russia ($n = 106$, 49% boys), by performing skin prick tests (SPT) to two common allergens, birch (10 HEP) and cat (10 HEP), with a positive (histaminedihydrochloride 10 mg/ml) and a negative (solvent) control using a standard procedure (Solu-prick SQ; ALK A/S, Copenhagen, Denmark). A wheal diameter of ≥ 3 mm was considered as a positive test result.

We found that among Finnish children, STP positivity to birch was 14.4% and to cat 17.3% and the respective figures among Russian children were 4.7 and 7.5% (Fischer's exact test $P = 0.019$ for birch, $P = 0.037$ for cat). The results are well in line with the earlier data obtained from schoolchildren in the West compared with children in East Europe (1,2). Similar gradients in atopy prevalences between East and West have been found even among adults, although the differences have been most pronounced in individuals <40 years of age (5).

In conclusion, atopy, assessed by an objective measurement, showed to occur significantly less frequently among Russian as compared with Finnish schoolchildren. Our results lend further support to the view that improved hygiene and western lifestyle is associated with higher occurrence of atopy among children.

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Accepted for publication 21 July 2003
Allergy 2004; 59:465–466
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Acute coronary syndrome due to amoxicillin allergy

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Key words: acute coronary syndrome; allergic angina; amoxicillin; beta lactams; drug allergy.

IgE-mediated hypersensitivity reactions are responsible for a wide spectrum of clinical manifestations. Patients suffering from anaphylaxis presumably caused by massive mast cell mediator release may rarely exhibit cardiovascular symptoms (1).

A 56-year-old man was admitted to our hospital with dyspnoea, thoracic pain, and a mild pruriginous erythematous rash. The symptoms had begun approximately 30 min after the ingestion of an oral dose of 500 mg of amoxicillin. He was admitted to the emergency room of our hospital 45 min after the start of the symptoms, when thoracic pain was intolerable. The electrocardiographic examination did not show ischaemic changes. Serial determi-

nations of aspartate aminotransferase, alanine aminotransferase, lactate dehydrogenase, creatine kinase, myoglobin, cardiac troponin I and creatine kinase-MB fraction (muscle and brain hybrid type isoenzyme, specific to myocardial symptoms) showed significant changes (Table 1). The patient's condition improved with the administration of corticosteroids, antihistamines and sublingual nitroglycerine. His diagnosis revealed angina pectoris and anaphylaxis. Four days after admission, when he was completely recovered, he wrongly received another oral dose of amoxicillin and the previous clinical picture was repeated. Fortunately, the reaction was again controlled.

Echocardiography and exercise electrocardiographic testing did not reveal any meaningful alterations. The patient refused to undergo coronary angiography.

The final concentrations used for skin tests were as follows: 5×10^{-5} mmol/l benzylpenicilloyl (BPO); 2×10^{-2} mmol/l minor determinant mixture (MDM) (Allergopharma, Merck, Darmstadt, Germany), 20 mg/ml amoxicillin, and 20 mg/ml ampicillin (Antibioticos Farma SA, Alcalá de Henares, Spain).

Prick testing with betalactams was negative. The patient showed positive intradermal skin tests with 20 mg/ml amoxicillin (wheal 15 mm diameter, flare 30 mm diameter), MDM (wheal 10 mm diameter, flare 30 mm diameter) and BPO (wheal 6 mm diameter, flare 8 mm diameter).

Few minutes after the intradermal test with 20 mg/ml amoxicillin he developed thoracic pain and mild pruritic rash. It was solved with 0.1 ml of epinephrine injected in the area of the positive intradermal test and 200 mg of hydrocortisone administered intravenously.

Total serum IgE was 642 kU/l. We could not detect serum-specific IgE against betalactams (CAP system, Pharmacia, Uppsala, Sweden).

Cardiac involvement in allergic reactions to drugs is rare (2–5). Antibiotics have rarely been reported in allergy-induced acute coronary syndromes (3–5). Cardiac involvement represents an important clinical finding during an anaphylactic reaction. The main mechanism proposed is the vasospasm of coronary arteries (1). Moreover, the high number

Cardiac symptoms developed after intradermal testing with amoxicillin.