

EDITORIAL

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Oral Allergy Syndrome – a Short Review with Own Experience

Zespół alergicznego zapalenia jamy ustnej – krótki przegląd piśmiennictwa i własne doświadczenia

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Abstract

Oral allergy syndrome (OAS) is an allergic reaction to certain food which occur in atopic patients with hayfever and/or atopic asthma. The symptoms may be present throughout the year while eating the specific food, although they are more severe during the pollen season. The most common symptoms are burning and itching of mouth, lips and throat. The swelling of the lips, tongue or throat may occur. Occasionally, more serious symptoms may appear, including anaphylactic shock. Allergic reactions to certain food are usually associated with the allergy against specific pollen. The most frequent allergenic foods are: kiwi, nuts, apple, celery or parsley. The treatment of OAS is very difficult and frequently unsatisfactory, and mainly lies in avoidance of allergenic food. The problem is usually life long. The article summarises briefly the current knowledge on this syndrome. The authors also present a case report of a female patient with diagnosed OAS (*Dent. Med. Probl.* 2004, **41**, 4, 599–602).

Key words: oral allergy syndrome.

Streszczenie

Zespół zapalenia alergicznego jamy ustnej (OAS) powstaje w wyniku reakcji alergicznej na określone pokarmy u osób cierpiących na choroby należące do grupy chorób atopowych, szczególnie na katar sienny i/lub astmę. Objawy mogą być obecne przez cały rok, najbardziej jednak są nasilone w okresie pylenia rośliny, na której pyłki pacjent jest uczulony. Najczęściej pacjenci skarżą się na uczucie pieczenia i obrzęku w obrębie błony śluzowej jamy ustnej, warg, języka, gardła. Rzadziej mogą wystąpić objawy ogólne, łącznie ze wstrząsem anafilaktycznym. Reakcje alergiczne na określone pokarmy towarzyszą zwykle uczuleniu na specyficzne pyłki roślinne. Najczęściej przyczyną wystąpienia objawów OAS jest spożycie takich pokarmów, jak: kiwi, orzechy, jabłka, seler, pietruszka. Obecnie nie ma skutecznego leczenia OAS, a postępowanie polega przede wszystkim na unikaniu żywności prowokującej objawy. Skłonność do reakcji alergicznych na określone pokarmy pozostaje zazwyczaj do końca życia. W artykule przedstawiono aktualny stan wiedzy na temat OAS. Zaprezentowano również przypadek kliniczny pacjentki, u której rozpoznano OAS (*Dent. Med. Probl.* 2004, **41**, 4, 599–602).

Słowa kluczowe: zespół alergicznego zapalenia jamy ustnej.

Oral allergy syndrome (OAS) is an allergic reaction to certain food, causing symptoms usually limited to mouth and throat. These reactions occur most often in patients with hayfever, thus the syndrome is also frequently called pollen-food allergy syndrome [1–3]. The prevalence of this disorder is assessed to be quite high, but the accurate diagnostic criteria have not been established so far, which may lead to overdiagnosis in some cases [4]. In the USA the prevalence of this syndrome is estimated to be 5% among children and 8% among adults [1]. This per-

centage concerns the population with documented pollen allergy. The data from Europe, especially Eastern Europe, are not accurately known.

Pathogenesis

OAS is a disorder caused by IgE antibody-mediated reactions to certain proteins present in consumed food which are homologous to pollen antigens [2]. These allergic reactions happen most-

ly in atopic patients with hayfever or asthma due to birch pollen, ragweed pollen (in North America), mugwort (more common in Europe), grass and more seldom due to other aeroallergens. The symptoms may appear at any time of the year while eating the food, but they can be especially severe during the pollen season. The more troublesome hayfever symptoms are, the more serious symptoms appear due to OAS [2].

Allergic reaction appear mainly while eating raw food [5–8]. The patient usually can eat cooked, baked, microwaved or canned food without any symptoms, because high temperature destroys allergenic proteins. The exception are nuts and celery, which may cause allergic reactions even if they are cooked. It is common that the most allergenic part of the fruits and vegetables is the skin. Thus, some patients can eat allergenic fruits if the skin is peeled away and in this case they have no symptoms. Similarly, some brands of fruits are more allergenic than the others. Usually unripe or freshly picked fruits cause more severe reactions than very ripe or long stored ones.

The pollen allergy to certain plants are usually associated with allergic reactions to specific food. For example birch allergy is commonly associated with allergic reactions to some fruits (kiwi, apple, pear, plum, prune, peach, nectarine, apricot, cherry), vegetables (celery, carrot, parsnips, parsley, dill, anise, cumin, coriander, caraway, fennel, potato, tomato, green pepper, lentils, peas, beans), nuts (hazelnut, walnut, almond, peanut) and seeds of sunflower. People allergic to ragweed are often also allergic to banana, watermelon, cantaloupe, honeydew, zucchini or cucumber. Grass allergy is accompanied by allergy to melon, watermelon, tomato, orange, kiwi. Mugwort allergy is associated by allergic reactions to apple, watermelon, melon, celery or carrot. Severe allergic reactions to foods causing OAS, including anaphylaxis, are most likely to appear after consuming celery, kiwi, peaches, apricots, apples, nuts and parsley [rev. in 9].

Clinical Manifestation

The symptoms of OAS may include itching and burning of the lips, mouth, throat and palate. The swelling of the lips, tongue or throat may be seen. Sometimes watery itchy eyes, runny nose and sneezing appear. Some patients develop the symptoms only after handling the raw fruit or vegetable, and even peeling it, touching or contact with its juice may produce rash, itching or swelling of the skin or eyes and nose symptoms. More serious reactions include swelling of the pharynx and windpipe. Sometimes severe, general symptoms,

such as vomiting, diarrhea, bronchial asthma and, on rare occasions, life threatening reactions including anaphylactic shock may be present. Symptoms usually occur within minutes of consuming or touching the allergenic food, more seldom the symptoms develop during one hour after consumption [2, 9].

Diagnosis

OAS is a problem which is usually life long. The diagnosis is based on the characteristic case history and positive skin prick tests to the allergenic food and pollen [4, 10, 11]. Allergy tests to the foods may be sometimes negative unless a fresh fruit is used for testing instead of a commercial allergy extract. Positive specific IgE antibodies against tree or grass pollen may also be very helpful [4, 10, 11].

Management

Management of OAS is not very satisfactory, and usually lies in prevention [1]. The patient must be informed how to avoid allergenic substances. Thermal treatment of allergenic food (cooking, baking, microwaving) is usually of great value. Sometimes peeling the fruit may be sufficient. The patient should observe himself and avoid foods that bring the worsening of the symptoms. The patient should make notes on his/her observations to allow adequate final analysis of the triggering factors. Sometimes allergies to other foods develop during the life. Nuts should be totally avoided because of the high risk of severe allergic reactions. Treatment with antihistaminics may be helpful. In case of severe life threatening reactions the patient should be hospitalized. Some patients carry injectable medications (epinephrine) for prevention or early treatment of anaphylaxis. Specific immunotherapy of hayfever sometimes is also helpful in treating associated food allergies [1, 9].

Own Experience

Here, in order to illustrate the OAS, the authors present a 48-year-old female patient treated in their department due to chronic symptoms located in her mouth. The symptoms started to appear about 10 months earlier. The patient suffered mainly from burning and itching of the tongue, lips and mouth with swelling of the involved areas. The symptoms were aggravated by eating different food products, especially nuts, cel-

ery or spicy food. Burning appeared immediately after consumption of specific, above mentioned foods. The patient was consulted by the dentist, but no diagnosis was put. Bacteriological and fungal cultures taken from the throat and oral mucosa were negative.

Physical examination revealed the hypertrophy and swelling of the buccal mucous membrane of both sites, especially along the bite line. There were three amalgam fillings present. The tongue was fissured and slightly coated. There were no skin changes.

The patient suffered from pollen allergy for many years. The symptoms were allergic conjunctivitis and hayfever. There were no other serious or chronic diseases at the time of examination or in the past. Family history was not relevant apart from the pollen allergy observed in the children of the patient.

On the basis of the clinical picture OAS was suspected and additional examinations were performed. The basic biochemical findings, including blood cell count, blood smear, glucose, renal and liver parameters, electrolytes and urinalysis, were within the normal ranges. Total IgE antibodies were 33.6 U/ml. The prick tests were performed and positive reactions were observed for hazelnut, walnut, celery, curry and dust mites. Moreover, the

positive patch tests were observed for cobalt, nickel and chromium. The spirometry was normal. Histopathological findings of the edematous buccal mucous membrane showed the thickening of the epithelium with edematous liquid and not clear borders between the structures of the mucous membrane. Under the epithelium there was a scattered, not very marked inflammatory infiltration.

OAS was diagnosed and the patient achieved antihistaminic treatment. She was also informed to avoid nuts, celery and curry in the food. The authors also recommended to remove the amalgam fillings as the potential source of contact allergy, concerning the positive patch tests for metal ions.

Conclusions

OAS is a very bothersome syndrome. The dentists should all be aware of this entity, as the patients may consult not only dentist, but also dermatologists, allergologists and general practitioners. The proper diagnostic procedures are crucial to distinguish this syndrome from the so called "burning mouth syndrome" [12]. Treatment of OAS is not easy and requires strict cooperation between the patient and doctor.

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