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Revue française d'allergologie 50 (2010) 628–633

Case report

Food allergy to egg with the onset at adult age

Allergie à l'œuf de poule dans la population adulte

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Received 9 October 2009; accepted 15 March 2010
Available online 24 April 2010

Abstract

Allergy to hen's egg is common in infancy. Adult-onset of egg allergy has rarely been mentioned in the literature. In this case report, we demonstrate the 59-year-old woman with the onset of severe atopic eczema at 53 years due to food allergy to egg and other foods with the suspicion of having the bird-egg syndrome. The patient has been found to be sensitized to a lot of aeroallergens including feather or animal dander with clinical symptoms of asthma bronchiale. In the open exposure test the food allergy to egg was confirmed and the severity of atopic eczema was checked out every 2 months after the elimination of egg and other foods. During last 3 years, the patient is without eczematic lesions or suffers from mild form of atopic eczema with dry skin. She eliminates rigorously egg, celery, sea fish and treenuts. During the breaking of the diet regimen, she can now observe not only cutaneous, but also respiratory and gastrointestinal symptoms.

Keywords: Egg allergy; Atopic dermatitis; Bird-egg syndrome; Elimination diet; Open challenge tests

Résumé

L'allergie alimentaire à l'œuf de poule fréquente dans l'enfance est plus rarement mentionnée dans la littérature dans la population adulte. Nous rapportons l'observation d'une adulte âgée de 59 ans qui a développé un eczéma à l'âge de 53 ans en relation avec une allergie alimentaire à l'œuf et à d'autres aliments avec une suspicion de syndrome œuf-oiseau. La patiente présente un asthme associé à de multiples sensibilisations aux pneumallergènes incluant les plumes et phanères animales. L'allergie alimentaire à l'œuf est confirmée par un test de provocation en ouvert avec évaluation de la sévérité de l'eczéma deux mois après éviction de l'œuf et des autres aliments. La patiente évite rigoureusement l'œuf, le céleri, les produits de la mer et les fruits à coque. Elle n'a plus développé de lésions d'eczéma au cours des trois dernières années, mais décrit une peau sèche. Les expositions accidentelles alimentaires s'accompagnent maintenant, non seulement de signes cutanés mais également de symptômes respiratoires et digestifs.

Mots clés : Allergie à l'œuf ; Eczéma topique ; Syndrome œuf-oiseau ; Régime d'éviction ; Tests de provocation

1. Introduction

Allergy to hen's egg is common in infancy and childhood and is closely associated with atopic dermatitis, particularly in infants who develop eczema in the first year of life [1,2]. It is quite rare in adults and even in those cases, clinical symptoms began in childhood or early adulthood.

The yolk contains various proteins but the major allergens are contained in the egg white. In some cases, a relationship between type I hypersensitivity with respiratory symptoms due to bird antigens and allergy to yolk has been described. This association is known as bird-egg syndrome, which is caused by sensitization to chicken serum albumin (alpha – livetin) and is characterized by the development of respiratory and gastrointestinal symptoms after egg intake or after contact with bird antigens. The initial symptoms are usually asthma with or without rhinoconjunctivitis due to contact with birds. Individuals first become sensitized to bird proteins (feathers,

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1877-0320/$ – see front matter
doi:10.1016/j.reval.2010.03.010

excrements, serum, meat) and subsequently develop egg allergy.

In this case report, we demonstrate a 59-year-old woman with allergic asthma bronchiale from early childhood and with clinical symptoms of acute allergic rhinitis and shortness of breath in contact with birds and animals such as a horse, a cat or a dog. The patient suffered from 53 years of age from severe form of atopic eczema in addition. The diagnostic work-up of food allergy including diagnostic hypoallergenic diet and exposure tests was started in this patient because of this severe form of atopic eczema. It was confirmed, that cutaneous symptoms as the late reactions on the skin were the initial symptoms of food allergy to eggs.

2. The description of the case

A patient, a 55-year-old woman, was admitted to the Department of Dermatology and Venereology, Faculty Hospital and Medical Faculty of Charles University, Hradec Králové, Czech Republic in December, 2006. The reason for examination and hospitalization was a severe form of atopic eczema with numular lesions with impetiginization on legs and arms.

2.1. Family history

Mother died in 69 years for tumor of uterus, father suffers from tumor of prostatic gland.

The patient has five brothers and sisters, one brother suffers from asthma bronchiale.

The patient has two children, one daughter suffers from asthma bronchiale.

2.2. Personal history

Arterial hypertension from 2004.

2.3. Social history

Disability pension from July 2006 for severe form of astma bronchiale, she worked before as an operator worker in Panasonic firm. She lives in a block of flats, has no animals. In contact with animals, such as cat, dog, canary, parrot, the patients describes immediately symptoms of acute rhinitis and worsening of asthma bronchiale.

2.4. Medications (December 2006)

Salbutamol (Ventolin aer), zafirlukastum (Accolate tabl 2 × 20 mg per day), ipratropinii bromidum (Atrovent aer, three breaths four times per day), beclometasonii dipropionas (Ecobec 250 ug two breaths six times per day), loratadinum (Claritin 20 mg per day).

2.5. Allergology

The patient was followed-up for the moderate form of allergic asthma bronchiale from early childhood. The progression of asthma bronchiale was recorded at 40 years of age and since this time she has suffered from a severe form. At the allergological outpatient department, the allergy to pollen – warmwood, feathers of birds and fur of horses was recorded in skin prick tests.

Specific IgE was positive to these aeroallergens (U/ml): *Dermatophagoides farinae* 16.27, *D. pteronnysinus* 16.37, dog epithelium 13.27, fur of cat 1.6, fur of dog 2.83.

She was regularly examined and treated for severe form of asthma bronchiale at this outpatient department.

2.6. Dermatology

The onset of skin lesions was recorded in 2004 and the diagnosis of atopic eczema was made with the Hanifin-Rajka criteria at the outpatient department. She suffered almost permanently from numular eczematic lesions (redness, papules, sometimes madidation) on hands, arms, and legs. The therapy of skin lesions within 2 years consisted in systemic treatment – antihistamines, local treatment – corticosteroid and antibiotic therapy, indifferent therapy with emolients, but the effect of this therapy for atopic eczema was low. Severe form of atopic eczema with numular lesions with impetiginization on the legs and arms was the reason for admission to hospitalization in December 2006 at the Department of Dermatology and Venereology, Faculty Hospital and Medical Faculty of Charles University, Hradec Králové, Czech Republic.

3. The course of hospitalisation

During admission, the skin on legs and arms was affected with the multiple numular eczematic lesions, on some parts around the wrists and ankles with the sings of impetiginisation. The severity of atopic eczema was evaluated with the SCORAD index, SCORAD was 54 points.

No pathological findings were obtained from internal and neurological examinations.

The basic hematological and biochemical examinations were all right.

Bacteriological cultivation from skin lesions proved *Staphyloccocus aureus*.

In the systemic therapy, the treatment for asthma bronchiale continued without changes and the systemic treatment with antihistaminic medication (loratadinum, Claritin 20 mg per day) continued as well. The local corticosteroid therapy with local antibiotics and with emolients was used. The skin finding improved during hospitalisation, but some burning, itching, and redness in previous lesions still lasted.

Because the patient has recorded food hypersensitivity, as the burning and itching in the mouth after ingestion of kiwi and tomatoes since childhood and in the last 1 year, she has observed diarrhea after ingestion of seafish (tunny, salmon, cod), we started the diagnostic work-up of food allergy as the possible cause of the disease. This examination was performed in intervals with milder symptoms of atopic eczema.