International Archives of Allergy and Immunology

Int Arch Allergy Immunol 1999;118:232–233

Oral Provocation Tests with Food Additives in Atopic Eczema

D. Vieluf[a] A. Wieben[b] J. Ring[c]

[a]Clinic of Dermatology and Allergy, Borkum, [b]Department of Dermatology and Allergy, University of Hamburg, and [c]Department of Dermatology and Allergy Biederstein, Technical University, Munich, Germany

Key Words

Oral provocation test · Food additives · Eczema atopic

Introduction

Multiple unspecific and specific factors such as irritants, psychosomatic influences and allergens may play a role in the pathogenesis of atopic eczema (AE). Although there are numerous clinical examples showing exacerbations of AE after exposure to certain foods or food additives (FA) the role of these adverse reactions is still a matter of controversy [1–4]. Based on a detailed history, skin prick tests and in vitro methods for detecting specific IgE antibodies against food allergens, open provocation tests or single/double-blind placebo-controlled challenge tests could be performed with the offending food or FA. The aim of our study was to standardize a provocation diet for patients with AE as well as an oral provocation test (OPT) with FA.

Materials and Methods

In 64 patients (11 m, 53 f; 1–66 years old) with moderate to severe atopic eczema OPT with various foods were performed as a special provocation diet over a period of at least 6 days. A special kind of protocol had been developed: the patients documented the foods consumed, time of onset, kind, localization and duration of symptoms as well as psychological and other factors which might have influenced the skin lesions.

In order to evaluate the role of single FA in AE, double-blind placebo-controlled OPT with a standard series of the most common FA was performed in 30 patients (5 m, 25 f; 3–68 years old). All of them had a history of adverse reactions to foods containing additives or reacted in the provocation diet on day 6 (‘additive-rich’). A single compound was given in gelatine capsules in increasing doses within 8 h with a follow-up of at least 16 h at hospital. In order to minimize adverse reactions to FA in the daily food, the patients were given an additive-free diet [5]. Patients were challenged at a time when their symptoms were stable or in remission. They were observed for subjective and objective symptoms and the severity of the AE was graded according to the SCORAD. Contraindications for the challenge tests were intercurrent infections or vaccinations, pregnancy, poor patient complicance and instable AE. Antihistamines were discontinued for 5 days (long-acting substances up to 4 weeks) and systemic steroids for 3 weeks. Local application of mild corticosteroids was allowed. The patients were instructed to report immediately any symptoms appearing after challenge. The patients were continously supervised and exacerbations of AE were treated immediately. In case of a positive reaction the OPT was continued after remission of symptoms. Critieria for positive reactions were development of pruritus and erythema and/or flare-up of AE and/or urticarial lesions with subsequent AE.

Results

96 clear-cut positive reactions were observed in 44 of the 64 tested patients: to cereals/fruits/vegetables in 21/61, nuts 16/61, spices 12/60 and fish/sea food 10/59. On a separate day special additive-rich food was given leading to positive reactions in 11/57 patients. The detailed analysis of the re-

This work will be part of CMD These of Anja Wieben submitted to the Faculty of Medicine, University of Hamburg.

KARGER

Fax +41 61 306 12 34
E-Mail karger@karger.ch
www.karger.com

1018–2438/99/1184–0232 $17.50/0

Accessible online at:
http://BioMedNet.com/karger

Correspondence to: Dr. Dieter Vieluf
Fachklinikum Borkum
Jann-Berghaus-Strasse 49
D–26757 Borkum (Germany)
Tel. +49 4922 708660, Fax +49 4922 708647

action pattern to foods showed in most patients a flare-up of AE with the first symptoms within 30 min after provocation. In the OPT with FA 36 positive reactions (23 cases with flare-up of AE, 7 erythema with pruritus, 4 urticaria, 1 erythema, 1 asthma) could be obtained in 19 patients, predominantly to sulfites (8/30), food dyes (6/28), salicylates (5/23) and sodium benzoate (4/30). 7 patients reacted to one, 9 to two, 1 to three and 2 to four of the tested FA. 5 of 22 patients reacted to the additive-rich food on day 6 of the provocation diet as well as to one or more FA in the OPT.

Conclusion

The presented oral provocation diet is a reliable diagnostic procedure to evaluate the influence of foods and FA on skin lesions in patients with AE. FA can provoke eczematous skin lesions in a subgroup of patients with AE. OPT with foods containing FA is a good-screening method and has to be completed with challenges with a standard battery of single FA. On the basis of the results of the provocation diet and the OPT with FA individual elimination diets could be used in the therapy of AE.

References

1 Sampson HA: Eczema and food hypersensitivity; in Metcalfe DD, Sampson HA, Simon RA (eds): Food Allergy, Adverse Reactions to Foods and Food Additives, ed 2. Oxford, Blackweel Science, 1997, pp 193–209.

2 Przybilla B, Ring J: Food allergy and atopic eczema. Semin Dermatol 1990;3:220–225.

3 Ring J, Vieluf D: Adverse reactions to food; in Vermeer BJ, Wuepper KD, van Vloten WA, Baartde la Faille H, van der Schroeff JG (eds): Current Problems in Dermatology. Metabolic Disorders and Nutrition Correlated with Skin. Basel, Karger, 1991, vol 20, pp 187–202.

4 Wüthrich B: Adverse reactions to food additives. Ann Allergy 1993;71:379–384.

5 Behr-Völtzer C, Hamm M, Vieluf D, Ring J: Diätempfehlungen bei Nahrungsmittelallergie. Munich, MMV, in press.