Tidsskriftet Tidsskrift for Den norske legeforening

Food intolerance in children

OPINIONS

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The author has completed the ICMJE form and declares no conflicts of interest.

A variety of factors can cause food intolerance, and the symptoms span a wide range. It is likely that food intolerance in children is overdiagnosed.

Up to 25–40 % of a population self-report that they have experienced symptoms triggered by food and that they consider themselves to have a food intolerance (1). There are no reliable figures describing the incidence of food intolerance in the Norwegian population. In a Danish study, where food provocation tests were used to diagnose food hypersensitivity, the incidence was 2.3 % among three-year-olds, 1 % in children older than three years and 3.2 % in adults (2). This suggests that children are unnecessarily being put on elimination diets without adequate investigation taking place.

Different causal mechanisms

Non-immunological mechanisms are often behind food intolerance (3). There is a lack of reproducible, well-designed, double-blind, placebo-controlled studies into many food intolerances, such as non-celiac gluten intolerance and intolerance to additives and bioactive food chemicals. The understanding of mechanisms, diagnosis and treatment is therefore unclear (3). It is not known which mechanisms are at work in non-celiac gluten intolerance. Whether it is gluten alone, or wheat in general (both the fructans and proteins) that causes a reaction is currently unknown (4).

Food intolerance tests

The marketing of intolerance tests for various foodstuffs and nutrients continues to increase. During food intolerance testing, blood is exposed in vitro to a panel of foodstuffs and food components (5). The degree of total immunoglobulin G (IgG) antibody binding to each food is quantified via an enzyme- or fluorescence-linked immunosorbent assay. Alternatively, IgG subclass 4 (IgG4) binding can be measured instead of total IgG. Some of the food intolerance tests also measure both food-specific IgG4 and food-specific immunoglobulin E (IgE) levels in a wide range of foodstuffs, which can be confusing for patients purchasing the tests (5).

> ***«Children are unnecessarily being put on elimination diets without adequate investigation taking place»***

Several countries have expressed concern about the increased marketing of food-specific IgG testing to the general public in recent years, purportedly as a simple way of identifying food intolerances and food allergies (6–9). Uncritical and inappropriate use of such tests increases the likelihood of false diagnoses, resulting in unnecessary dietary restrictions and reduced quality of life (10). Concerned parents might put children on exclusion diets that pose a risk of poor growth and malnutrition (6). Such diets can entail the elimination of dairy products, wheat, eggs and/or other foodstuffs found in healthy, balanced diets. Updated guidelines therefore list food-specific IgG4 testing as a non-standardised and unprovoked procedure, along with other tests such as hair analysis, cytotoxicity assays and electrodermal testing (6–8).

The literature indicates that food-specific IgG presence is a marker of food exposure and tolerance (6–9). Positive test results for food-specific IgG can therefore be expected in normal, healthy children.

Overdiagnosis

It is likely that food intolerance in children is overdiagnosed. European guidelines recommend a full investigation, including a duodenal biopsy, in order to rule out celiac disease and wheat allergy while the patient is on a gluten-containing diet, before assessing non-celiac gluten intolerance (4, 11, 12). Despite this, a number of children are believed to be unnecessarily put on elimination diets without adequate investigation taking place. The large proportion of patients who are self-diagnosed and who start a gluten-free diet without adequate grounds is also a challenge.

GPs should consult with a specialist if there is any doubt about a diagnosis or about whether a child should start a long-term elimination diet. The causal complexity and challenging diagnostics mean that the investigation should mainly be carried out in the specialist health service. Safe diagnosis usually

requires observed double-blind, placebo-controlled provocation testing. Optimal treatment is a diet in which foodstuffs that trigger symptoms are eliminated without any nutritional consequences or unnecessary expenses for the patient.

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Publisert: 4 May 2020. Tidsskr Nor Legeforen. DOI: 10.4045/tidsskr.20.0122
Received 12.2.2020, first revision submitted 23.3.2020, accepted 25.3.2020.