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Abstract


Prevalence of intolerance to food additives among Danish school children.

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Abstract

The prevalence of intolerance to food additives was assessed in a group of unselected school children aged 5-16 years. A study group of 271 children was selected on the basis of the results of a questionnaire on atopic disease answered by 4,274 (86%) school children in the municipality of Viborg, Denmark. The children in the study group followed an elimination diet for two weeks before they were challenged with a mixture of food preservatives, colourings and flavours. The challenge was open and the additives were prepared as a fizzy lemonade. If the open challenge was positive, a double-blind placebo controlled challenge with gelatine capsules was performed. The study included 281 children, 10 were excluded, and the remaining 271 children were given the open challenge (98 healthy controls and 173 with atopic symptoms). The open challenge was negative in all 98 healthy control children who had not reported any atopic symptoms. Of the 173 children reporting present or previous atopic disease 17 had a positive open challenge. Of these 17 children 1 experienced gastrointestinal symptoms, 13 reacted with aggravation of atopic eczema, and 3 with urticaria. Twelve of these 17 children went through the double-blind challenge which was positive in 6 cases. Five of these 6 children had positive reactions to synthetic colourings and 1 to citric acid. No serious reactions were seen. Based upon calculations of the results from this study and an earlier multi-center study in children referred to hospital clinics, the prevalence of intolerance to food additives in school children is estimated to be 1-2%.

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