



The outcome of the oral baked milk challenge in correlation with component-resolved diagnostics

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Background

Cow's milk allergy (CMA) is the most common IgE-mediated food allergy which affects 2% of children

Aims

To establish a good predictor of the oral food challenge (OFC) outcome with the baked milk.

Methods

We enrolled 24 children (17 boys, mean age 3,8 yrs) with CMA referred to Allergy Clinic during a 4- year period. Results of skin prick test (SPT) with commercial milk allergen, CM specific IgE (CMsIgE), casein specific IgE (CsIgE), history of other atopic diseases and previous anaphylaxis were collected in all patients.. Challenge with baked milk was performed with incremental dosages to a total of baked muffin containing 33 ml of milk (equivalent of 1,3 g of milk protein).

Results

A total of 16 children (67%) passed and 8 (33%) had a positive challenge. Among the patients who failed OFC only one experienced severe anaphylaxis. Others developed mild symptoms. The CMsIgE and CsIgE level correlated with baked milk reactivity ($r=0.641$, $p=0,0007$; $r=0.752$, $p=0,0003$ respectively), whereas results of skin prick tests, the presence of atopic dermatitis, asthma, history of previous anaphylactic reaction and age of the child did not. Median CMsIgE was 16 kU/L (95% CI 3,4 to 31,3) for passed challenges and 78 kU/L (95% CI 28,5 to 100,0) for failed challenges ($p=0,03$). ROC curve analysis for CsIgE and CMsIgE revealed an AUC of 0.931 ($p=0,0001$) and 0.891 ($p=0,0001$), respectively; with sensitivity 87,5% and 75% respectively; specificity 90% and 93% , respectively. Threshold level: 24,2 kU/L for CsIgE and 50 kU/L for CMsIgE.



Conclusions

The casein and CM specific IgE level were predictors of clinical reactivity to baked milk. It seems to reasonable to include the assessment of casein specific IgE before the decision of OFC. The baked milk challenge is rather safe procedure.

All authors declare no conflict of interest in regarding to this paper.