STUDY OF SENSITIZATION TO APPLES AMONG MOROCCAN POPULATION IN FEZ REGION: ALLERGENIC PROFILE AND EFFECT OF HEAT AND ENZYMATIC TREATMENTS

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ABSTRACT

The apple, *Malus domesticus*, is a fruit that belongs to the Rosaceae family, and one of the most consumed fruit in the world. However, several clinical studies have shown that the problem of allergy to apples has increased significantly over the last years. On the one hand, our study aims at evaluating the sensitivity of the Moroccan population of the Fez region to three apple types: Golden Delicious, Starking Delicious and Granny Smith. On the other hand, we are interested in studying the influence of thermal and enzymatic treatments on the allergenicity of apple proteins. This work is based on a sample of sera of 73 patients of different sexes and age ranges. Sera were collected from the hospital Ibn Elkhatib of Fez University Hospital Center, and from private medical laboratories in Fez. Analysis of sera was performed by the ELISA technique for the measurement of apple specific IgE, as well as for the evaluation of the effects of heat and enzymatic treatments on the immuno-reactivity of the apple proteins. The reported study shows a low prevalence of allergy to apples among the Moroccan population. The results of measurement of IgE specific to apple proteins showed that the average of rate to specific of IgE was 55.8±3.3UI/ml to Golden Delicious. The study of the effect of thermal and enzymatic treatment shows that the Golden proteins lost most of their immune-reactivity with human IgE. The results obtained in this study open up an important perspective for allergic persons; the physicochemical treatment can be an alternative to heavy therapeutic treatment

Keywords: Food allergy, specific IgE, apple, thermal treatment, enzymatic hydrolysis.