

# ABSTRACT

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**Title of diploma thesis:** Monitoring of sublingual allergen immunotherapy using serum levels of allergen specific IgG antibodies

The first aim of the thesis was to evaluate the clinical course of sublingual allergen immunotherapy (SLIT). Another aim was to assess the changes in antibody response over time and to compare the results of the Oralair treated group with the control group. Last but not least, the aim of the thesis was to evaluate the changes in the levels of specific IgG antibodies in relation to the clinical course of SLIT.

The visual analogue scale (VAS) was used for the clinical assessment of allergic symptoms. A commercially available ELISA method was used to determine sIgG4 against grass pollen allergens. sIgG1, sIgG2 and sIgG3 were determined by an in-house developed and validated ELISA. Based on the results, statistical analysis was performed.

It was found that Oralair therapy was clinically effective from the first season of the treatment. The VAS results showed that there was a statistically significant difference in the manifestation of allergic symptoms between the treatment and the control group. A significant increase in sIgG4 was found in the treated group, and there were significant differences between the results of the two groups. The increase in sIgG4 was corresponding to the positive clinical course of SLIT-treated patients. Some significant changes were also found in the results of sIgG1 and sIgG2, which could be related with the induction of tolerance and the alleviation of allergic symptoms. The level of sIgG3 did not significantly affected during SLIT.

**Key words:** Allergen immunotherapy, allergen specific IgG antibodies, ELISA, grass pollen allergy