Tolerance and safety of Purethal grass immunotherapy during administration of increasing doses with conventional and accelerated method in patients aged 5-12 years

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Aim: The aim of the study was to compare tolerance and safety of Purethal grass pollen during administration of increasing doses in patients aged 5 to 12 years according to conventional regimen (C reg) versus patients receiving the product according to accelerated method (A-reg). No statistically significant differences were found in either tolerance or safety of the provided product in both study groups.

Method: This was a retrospective study. A questionnaire developed for patients during immunotherapy with Purethal grass pollen, treated at the Center of Allergology, specialized allergy clinic in Lublin between 2014 and 2017, was the research tool. The study was conducted in a group of 74 patients starting immunotherapy between 2014 and 2017. One study group included patients who were given Purethal grass pollen according to conventional regimen, in increasing doses (C reg) (0.05, 0.1, 0.2, 0.3, 0.4 and 0.5 ml SC). The other group of subjects received the product according to an accelerated regimen (0.1, 0.3, 0.5 ml SC) (A-reg.). Types of early and late (30 min and 24 hours after the product administration) as well as local signs and symptoms, at the injection site (edema<5 cm, edema>5 cm, erythema<5 cm, erythema>5 cm, itching, pain) and generalized (urticaria, drop of arterial blood pressure, dyspnea, anaphylactic shock) were assessed.

Result: The study involved 74 children, including 51 boys (69.0%) and 23 girls (31.0%) with allergic rhinitis (AR). 25.7% of AR patients were diagnosed with asthma (FEV1>70%), 4.1% with AD and 2.7% with urticaria. Other allergies coexisted with grass allergy in 68.9% (51) of all subjects. These patients were additionally allergic to tree pollen-39.2%, dust mite-58.8%, mold alternaria-11.8%, animal hair-55.3% and woodworm-21.6%. Desensitization with other product was concurrently conducted in 13 patients (17.6%), more often in boys. For 84.6% (11 patients) this involved immunotherapy with mite allergens. Seven patients received Novo-Helisen depot and 4 Phostal. One patient received desensitization therapy to woodworm pollen with Allergovit and one additionally with Purethal to tree pollen. Local reactions were found in 10.8% (8 patients) of all the study subjects. In 6 patients, this included pain at the injection site. In this group, additionally two patients reported edema<5 cm and one patient both edema<5 cm and erythema≥5 cm and one patient reported only coexisting erythema<5 cm. We showed that coexistence of local reactions was not related to the method of administration of increasing doses. It was unaffected by coexistence of other allergies or concurrent desensitization with other product. Systemic reactions did not occur in our study group.

Conclusion: Safety and tolerance of Purethal grass pollen was the same in both study groups during administration of increasing doses, both using accelerated as well as conventional method. Systemic reactions were not found. Local reactions occurred only in 10.8% of the whole study groups, without significant differences between both study groups.

Biography
Izabella Krupa-Borek has obtained her specializations in Internal Medicine grade-2 and Allergology and PhD in Medicine (Epidemiological analysis of exacerbation of asthma and COPD). She has a long clinical experience and has worked in Allergic and Pulmonary Diseases Department in Provincial Szpital Specjalistyczny im Stefan Cardinal Wyszyński in Lublin, Poland from 1997-2005. Since 2008, she has been working in private clinic Center of Allergology in Lublin, Poland and in 2015 she has also worked as a Regional Allergic Diseases Consultant in Lublin Voivodship (Administrative Function). She is also the Member of Polish Allergology Society for 20 years, having core interest in specific immunotherapy.

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