House dust mite SCIT reduces asthma risk and significantly improves long-term rhinitis and asthma control – a RWE study

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Abstract

Background: The German Therapy Allergen Ordinance (TAO) triggered an ongoing upheaval in the market for house dust mite (HDM) allergen immunotherapy (AIT) products. Three HDM subcutaneous AIT (SCIT) products hold approval in Germany and therefore will be available after the scheduled completion of the TAO procedure in 2026. In general, data from clinical trials on the long-term effectiveness of HDM AIT are rare. We evaluated real-world data (RWD) in a retrospective, observational cohort study based on a longitudinal claims database including 60% of all German statutory healthcare prescriptions to show the long-term effectiveness of one of these products in daily life. **Methods:** Subjects between 5 to 70 years receiving their first (index) prescription of SCIT with a native HDM product (SCIT group) between 2009 and 2013 were included. The exactly 3:1 matched control group received prescriptions for only symptomatic AR medication (non-AIT group); the evaluation period for up to 6 years of follow-up ended in February 2017. Study endpoints were the progression of allergic rhinitis (AR) and asthma, asthma occurrence and time to the onset of asthma after at least 2 treatment years. **Results:** 892 subjects (608 adults, 284 children/adolescents) were included in the SCIT group and 2676 subjects (1824 adults, 852 children/adolescents) in the non-AIT group. During the follow-up period after at least two years of SCIT, the number of prescriptions in the SCIT group was reduced by 62.8% ($p<0.0001$) for AR medication and by 42.4% for asthma medication ($p=0.0003$). New-onset asthma risk was significantly reduced in the SCIT vs non-AIT group by 27.0% ($p=0.0212$). The asthma preventive effect of SCIT occurred 15 months after start of the treatment. In the SCIT group, the time to onset of asthma was reduced compared to the non-AIT group ($p=0.0010$). **Conclusion:** In this RWD analysis patients aged between 5 to 70 years benefited from SCIT with a native HDM product in terms of the reduced progression of AR and asthma after at least 2 years of treatment in the long term. The effects lasted for up to six years after treatment termination. A significantly reduced risk of asthma onset was observed, starting after 15 months of treatment.

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