Validation of the Rapid Test for Monitoring Mite Allergen Exposure in the Home

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1. Allergen avoidance is recommended as the first step in the treatment of asthma and allergic diseases. Exposure to indoor allergens is usually assessed by ELISA analysis of dust samples, however, ELISA is not suitable for home use. The rapid test (RT) uses gold labeled antibodies, develops within 10 minutes and has a sensitivity of ~ 0.1 mg/g Group 2 allergen. The use of the RT with a dust-sampling device (MITEST) was compared to the standard allergen assay (ELISA). Dust samples (n=228) were collected and extracted from 0.25m^2 bedding, carpet, or soft furnishings using the MITEST dust collector and assayed for mite Group 2 allergen by ELISA and RT. Samples were collected from Virginia, Australia, Sweden and France. The evaluation of Der p 2 ELISA with RT showed a good correlation, with 209/228 samples (92%) showing a good to excellent results when compared on a + to +++ visual scale. The RT was used to compare dust mite levels in air ducts with other sites (bed, floor, and sofa) in 26 homes from Virginia.The results showed that only 26% of air duct samples contained detectable mite allergens by RT or ELISA. We have been able to validate the use of RT together with MITEST collector for assessing mite exposure. The results also show that the test is sensitive and can be used to monitor allergen levels at different sites within the home.