

House dust mite sublingual immunotherapy in patients with receiving subcutaneous immunotherapy maintenance phase: A randomized controlled trial

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Methods:

A randomized controlled study was undertaken in 40 patients with allergic rhinitis with/without asthma who was receiving maintenance phase of HDM SCIT (TCTR20200606002). HDM SLIT tablet was given daily for 12 weeks. Switching to SLIT was compared to continuous SCIT. The principal outcome measure was symptom-medication score (SMS) and asthma control test (ACT) score. Immunologic changes in fresh whole blood to monitor T cell subsets, including regulatory T cells (Tregs), dysfunctional Tregs, and T helper 2 cells were investigated by the flow cytometry method and Der p2-specific IgE, Der p2-specific IgG4 and Der p2-specific IgE/IgG4 were investigated by ELISA method at baseline and 12 weeks after switching treatment.

Results:

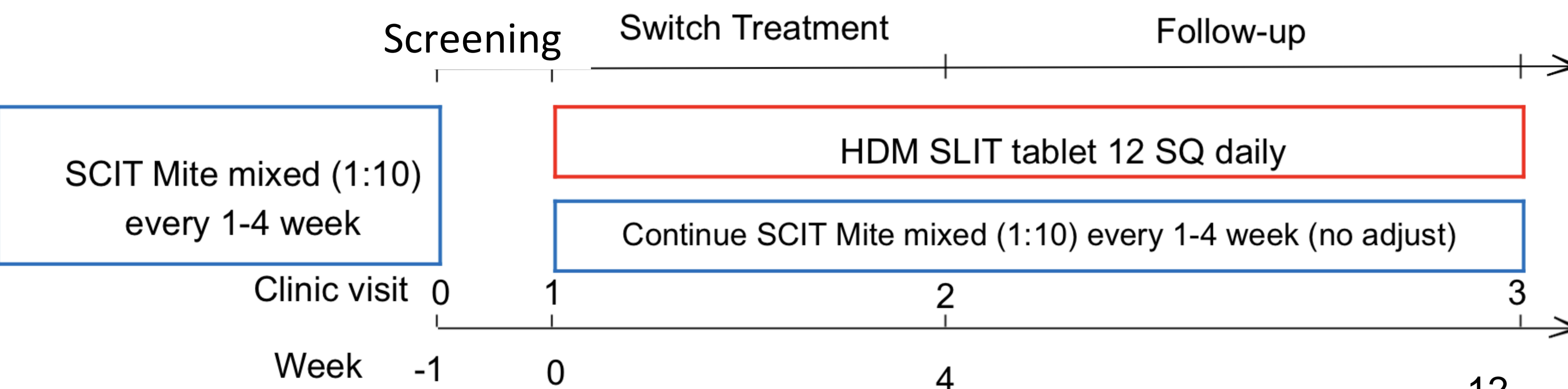
Of 40 patients, 19 patients in the SLIT group and 20 patients in the control group achieved the study. There were no significant differences in SMS and ACT scores between the SLIT group and SCIT group during 12 weeks of treatment. Significantly reduced SMS after 8 weeks compared to baseline (17.6 ± 2.9 to 14 ± 2.4 , $p = 0.028$) was demonstrated in the patients with SLIT. T cell subsets' frequency, specific IgE, IgG4 and IgE/IgG4 ratio did not change significantly in both groups at the end of the study. No severe adverse drug reactions were reported.

Conclusion:

SCIT can switch to SLIT in the immunotherapy maintenance phase. SLIT was safe and efficacious by reducing the symptoms and medication consumption

Background:

Allergen-specific immunotherapy (AIT) is the only treatment that cures allergic diseases. Subcutaneous immunotherapy (SCIT) is a conventional treatment which introduced more than 100 years ago. Novel, oral formulation, sublingual immunotherapy (SLIT) has shown equal efficacy to SCIT, while it is safe without life-threatening allergic reaction. Amid a pandemic of COVID-19, patients are advised to avoid hospital visits. SLIT might be the right choice because patients can take the tablets at home and do not need to go to the hospital for weekly injections like SCIT. However, there is no recent report on the efficacy of changing the route of immunotherapy from SCIT to SLIT. This study aims to assess the efficacy of switching SCIT to SLIT in patients with house dust mite (HDM) allergy.



	SLIT (N = 19)	SCIT (N = 20)	P value
Gender, female (%)	10 (52.6)	14 (70)	0.26
Age, years (mean±SEM)	39.8±4.4	42.8±2.9	0.57
Allergic rhinitis (%)	19 (100)	20 (100)	>0.99
Comorbid disease			
Allergic asthma (%)	4 (21)	4 (20)	>0.99
Atopic dermatitis (%)	4 (21)	1 (5)	0.13
Allergen sensitization			
Der p (%)	19 (100)	20 (100)	>0.99
Der f (%)	18 (94.7)	18 (90)	>0.99
Polysensitization (%)	4 (21)	10 (50)	0.09
Cockroach (%)	1 (5.2)	9 (45)	0.008
Molds (%)	1 (5.2)	4 (20)	0.34
Pollens (%)	3 (15.8)	6 (30)	0.45
Duration of SCIT, weeks (mean±SEM)	90.9±16.5	148.6±50.9	0.71
Absolute eosinophil count	176.1±34.9	195.1±25.4	0.28
Total nasal symptom score	4.8±1.0	3.5±0.7	0.37
Total medication score	12.8±2.6	14.3±2.9	0.8
Symptom-medication score	17.8±2.9	17.9±2.8	0.94
Visual analogue scale	4.3±0.7	2.6±0.4	0.58

