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Efficacy of immunotherapy and symptomatic drugs

Allergen specific subcutaneous immunotherapy (SCIT) of seasonal allergic rhinitis (SAR) is usually considered a "second-line", slow-acting, disease modifying treatment. However, we tested whether SCIT is as effective as anti-symptomatic treatment in the control of symptoms in patients with SAR in the first year of treatment. To this end, we have reviewed meta-analyses with 5 or more randomised, double-blind, placebo-controlled trials of SCIT or anti-symptomatic treatment in patients with SAR. We then selected trials measuring the total nasal symptom score (TNSS), the total symptom score (TSS) or both during the first pollen season after treatment initiation. Efficacy was determined as the percentage reduction in TSSs and TNSSs obtained with active treatment compared with placebo (relative clinical impact [RCI]) and the standardised mean difference (SMD) of treatment versus placebo (effect size [ES]). The weighted mean RCI of SCIT on TNSSs (-34.7% ± 6.8%) was higher than those of mometasone (-31.7% ± 16.7%, P < .00001) and montelukast (-6.3% ± 3.0%, P < .00001). The weighted mean RCI of SCIT on TSSs (-32.9% ± 12.7%) was higher than that of desloratadine (-12.0% ± 5.1%, P < .00001). The overall ES of SCIT in terms of TNSSs (SMD, -0.94; 95% CI, -1.45 to -0.43) was similar to that of mometasone (SMD, -0.47; 95% CI, -0.63 to -0.32; P > .05) and higher than that of montelukast (SMD, -0.24; 95% CI, -0.33 to -0.16; P < .05). The overall ES of SCIT in terms of TSSs (SMD, -0.86; 95% CI, -1.17 to -0.55) was comparable with that of desloratadine (SMD, -1.00; 95% CI, -1.68 to -0.32; P > .05). This analysis has provided indirect but consistent evidence that SCIT is at least as potent as pharmacotherapy in controlling the symptoms of SAR as early as the first season of treatment. The biological implications of this finding are to be investigated; the immunological mechanisms of short-term efficacy of SCIT may indeed be quite different from the mechanisms of long-term efficacy. On a clinical point-of-view, our findings may stimulate a balanced debate on the current guidelines for allergen specific immunotherapy and its potential role as a first-line, rather than a second-line treatment of SAR.