



PIGMENTATION

## TOPICAL CALCINEURIN INHIBITOR FOR VITILIGO: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Introduction:** Topical calcineurin inhibitors (TCI) including tacrolimus and pimecrolimus have been widely used for the treatment of vitiligo. Although it is recommended as the first line treatment of localized vitiligo, the therapeutic effect of TCI monotherapy is often underestimated.

**Objective:** We sought to estimate the treatment responses of both TCI monotherapy and combination therapy with phototherapy for vitiligo based on all relevant prospective studies.

**Materials and Methods:** A comprehensive database search of MEDLINE, EMBASE, Web of Science and the Cochrane Library from inception to August 6, 2018. All relevant prospective studies recruiting  $\geq 10$  participants were included without language restrictions. Of 251 studies initially identified, the full texts of 103 studies were assessed for eligibility, and 46 were finally included in the analysis: 36 studies involving 941 patients in the TCI monotherapy, and 12 studies with 558 patients in the TCI plus phototherapy. The primary outcomes were the response rate of at least mild ( $\geq 25\%$ ), at least moderate ( $\geq 50\%$ ), and marked ( $\geq 75\%$ ) responses.

**Results:** For TCI monotherapy, an at least mild response was achieved in 55.0% (95% CI, 42.2% to 67.8%; 21 studies with 560 patients) and a marked response in 18.1% (95% CI, 13.2% to 23.1%; 19 studies with 520 patients) after median 3 months (range, 2-7 months) of treatment. In the subgroup analyses, face and neck lesions showed an at least mild response in 73.1% (95% CI, 62.6% to 83.5%) and a marked response in 35.4% (95% CI, 24.9% to 46.0%). For TCI plus phototherapy, an at least mild response was achieved in 89.5% (95% CI, 81.1% to 97.9%) and a marked response in 47.5% (95% CI, 30.6% to 64.4%).

**Conclusions:** The use of TCI should be encouraged for vitiligo patients. Our data would be a useful guide for clinicians and patients to establish the treatment strategy.

