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## Q/ What's the most effective topical Tx for scalp psoriasis?

### EVIDENCE-BASED ANSWER

**A/ SINGLE-AGENT THERAPY** with a very potent or potent topical corticosteroid appears more effective than other topical agents, including vitamin D<sub>3</sub> analogues, for treating scalp psoriasis (strength of recommendation [SOR]: **A**, systematic reviews of randomized controlled trials [RCTs]).

Combined therapy with a vitamin D<sub>3</sub> analogue and a potent topical corticosteroid may be slightly more effective than monotherapy with either agent (SOR: **B**, systematic reviews of RCTs with inconsistent results).

### Evidence summary

A 2013 meta-analysis of 26 RCTs with 8020 patients evaluated topical treatments for scalp psoriasis as part of a subanalysis of a larger Cochrane review of psoriasis therapy.<sup>1</sup> Only 20 studies reported the severity of disease: 13 studies looked at moderate to severe scalp psoriasis and the others examined mild to severe disease.

Results were reported as standardized mean differences (SMD) and also converted to a 6-point global improvement scale created by the authors to provide a combined endpoint of provider- or patient-assessed improvement in symptoms such as redness, thickness, and scaling. Higher scores indicate more improvement.

Compared with placebo, the very potent corticosteroid clobetasol propionate improved psoriasis by 1.9 points on the 6-point scale (4 trials, 788 patients; SMD= -1.6; 95% confidence interval [CI], -1.8 to -1.3). The potent steroid betamethasone dipropionate improved symptoms by 1.3 points compared with placebo (2 trials, 712 patients; SMD=

-1.1; 95% CI, -1.3 to -0.90).

The topical corticosteroids clobetasol, betamethasone dipropionate, and betamethasone valerate improved symptoms more than the vitamin D<sub>3</sub> analogue calcipotriol in head-to-head trials. The corticosteroid improvement scores exceeded calcipotriol scores by 0.5 points (1 trial, 151 patients; SMD=0.37; 95% CI, 0.05-0.69), 0.6 points (1 trial, 1676 patients; SMD=0.48; 95% CI, 0.32-0.64), and 0.5 points (1 trial, 510 patients; SMD=0.37; 95% CI, 0.20-0.55), respectively.

**Combination therapy with a vitamin D<sub>3</sub> analogue** and a corticosteroid yielded approximately 0.2 points of improvement over corticosteroid alone (6 trials, 2444 patients; SMD= -0.18; 95% CI, -0.26 to -0.10). Four trials of combination therapy (2581 patients) resulted in 0.5 to 1.2 points of improvement compared with vitamin D<sub>3</sub> analogues alone (SMD=0.64; 95% CI, 0.44-0.84). Specific strengths and dosing regimens weren't reported.

The Cochrane systematic review, using the same outcome reporting methods, provided data on the vitamin D<sub>3</sub> analogue calcipotriol compared with placebo for treating scalp psoriasis.<sup>2</sup> Calcipotriol resulted in 0.9 points of improvement on the 6-point global improvement scale (2 trials, 457 patients; SMD= -0.72; 95% CI, -1.3 to -0.16).

### Very potent corticosteroids show a better response than potent agents

In 2013, a meta-analysis of 13 placebo-controlled RCTs (5640 patients) evaluated topical therapies for scalp psoriasis licensed in the United Kingdom. This meta-analysis included the same placebo-

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controlled studies as the Cochrane review but added one study published after the search date of the review.<sup>3</sup>

The outcome reporting was different from the Cochrane review. The primary outcome was percentage of patients with at least moderate scalp psoriasis who achieved clear or nearly clear status on provider assessment scales. All treatments were compared to twice-daily placebo with a response rate of 11%.

Very potent steroids had response rates of 78% for twice-daily application (risk ratio [RR]=7.0; 95% CI, 5.6-8.0) and 69% for once-daily application (RR=6.2; 95% CI, 3.0-8.3). The combination of a vitamin D<sub>3</sub> analogue and a potent corticosteroid showed a response rate of 64% (RR=5.7; 95% CI, 2.4-8.0) whereas response rates for potent corticosteroids alone were 57% (RR=5.0; 95% CI, 1.6-7.8) for once-daily application and 49% (RR=4.4; 95% CI, 2.2-6.7) for twice-

daily administration. The authors suggested patient satisfaction at using once daily vs twice daily application as a possible explanation for the difference in response rate.

Vitamin D<sub>3</sub> analogues showed response rates of approximately 34%, which is nonsignificant for once-daily application (RR=3.1; 95% CI, 0.71-6.6) but significant for twice-daily administration (RR=3.1; 95% CI, 1.3-5.9). Exact numbers of studies and participants, as well as specific agents and preparation information, were not included. **JFP**

#### References

1. Mason AR, Mason JM, Cork MJ, et al. Topical treatments for chronic plaque psoriasis of the scalp: a systematic review. *Br J Dermatol.* 2013;169:519-527.
2. Mason A, Mason J, Cork M, et al. Topical treatments for chronic plaque psoriasis: an abridged Cochrane systematic review. *J Am Acad Dermatol.* 2013; 69:799-807.
3. Samarasekera EJ, Sawyer L, Wonderling D, et al. Topical therapies for the treatment of plaque psoriasis: systematic review and network meta-analyses. *Br J Dermatol.* 2013;168:954-967.