Αναστολείς κινάσης τυροσίνης και φωσφοδιεστεράσης 4 για την ψωρίαση του τριχωτού της κεφαλής: μια μετα-ανάλυση

Efficacy of tyrosine-kinase-2 and phosphodiesterase-4 inhibitors for scalp psoriasis: a systematic review and meta-analysis.

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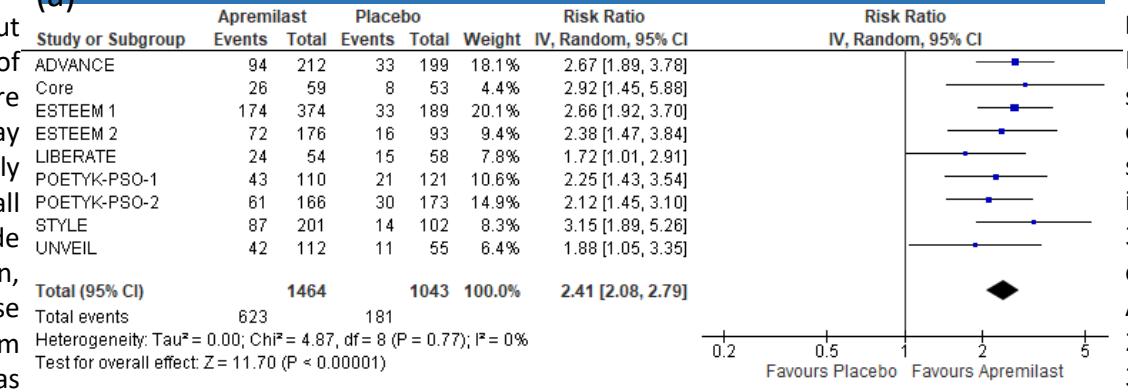
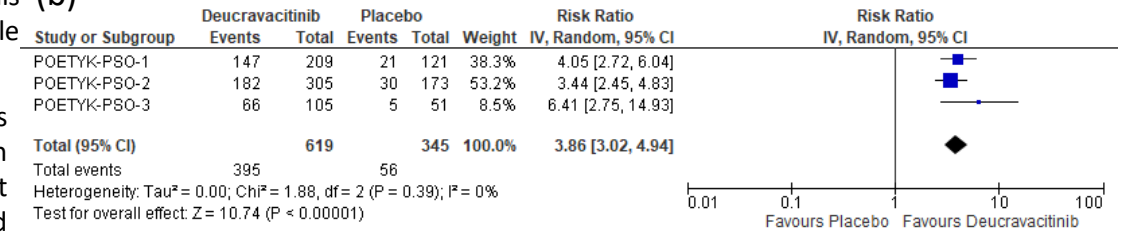
Background and aims: Scalp may be affected in about 80% of patients with psoriasis. Achievement of satisfactory clinical response is challenging and failure to adequately control the symptoms of the disease may significantly impact patients' quality of life. The only Food and Drug Administration (FDA)-approved small molecule inhibitors for plaque psoriasis include apremilast and deucravacitinib. Ease of administration, lower cost and favorable safety profile constitute these agents a promising alternative for the long term management of the disease. The aim of this study was to meta-analyze data from randomized controlled trials (RCTs) regarding the efficacy of oral small molecule inhibitors for the management of scalp psoriasis.

Methods: We included RCTs enrolling adult patients with scalp psoriasis. Studies investigating patients with plaque psoriasis with concomitant scalp involvement were included when outcomes in the scalp-involved subpopulation were reported using scoring systems. We systematically searched Medline, Scopus, Web of Science, CENTRAL databases and ClinicalTrials.gov registry for studies fulfilling the inclusion criteria from inception until 4th August 2023. Data from RCTs were synthesized. Results of pair-wise comparisons of dichotomous data were presented as risk ratios (RR) and 95% confidence intervals (CI). Random effects model meta-analyses using an inverse variance approach were executed. Results were visualized using forest plots. Heterogeneity was assessed utilizing Q and I^2 statistics. To determine risk of bias of included RCTs, the revised Risk of Bias (RoB) assessment tool 2.0

(a)



(b)



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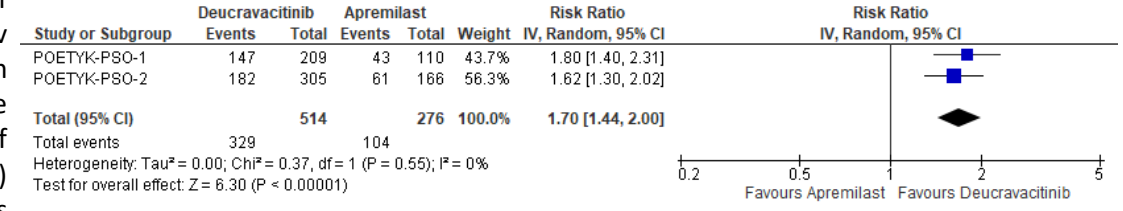

Figure 1. Forest plots depicting the results of the meta-analyses. **(a)** Apremilast is more effective than placebo in inducing cleared or almost cleared skin at 16 weeks. **(b)** Deucravacitinib is more effective than placebo in inducing cleared or almost cleared skin at 16 weeks. **(c)** Deucravacitinib is more effective than apremilast in inducing cleared or almost cleared skin at 16 weeks.

Results: In total, our search retrieved 495 reports. Duplicates were deleted and 353 reports were screened, of which 227 were excluded. Finally, 30 entries corresponding to 10 RCTs were included in the systematic review and meta-analyses. Six of the 10 included studies were rated as of low risk of overall bias, 3 as exhibiting some concerns and 1 as of high risk of overall bias.

Apremilast (30 mg twice daily, RR 2.41, 95% CI 2.08 to 2.79) and deucravacitinib (6 mg daily, RR 3.86, 95% CI 3.02 to 4.94) are more effective than placebo in clearing or almost clearing the psoriatic scalp (achieving a Scalp Physician's Global Assessment [ScPGA] of 0 or 1) at 16 weeks post treatment initiation.

Deucravacitinib is more effective than apremilast in clearing or almost clearing the psoriatic scalp (RR 1.70, 95% CI 1.44 to 2.00).

Conclusions: Apremilast and deucravacitinib are effective and well tolerated oral agents for the management of scalp psoriasis. The efficacy of apremilast is well established over the last decade. Deucravacitinib may be more efficient in clearing the scalp, but research is warranted.