

## **Effectiveness and Safety of Topical Tacrolimus in the Management of Lichen Sclerosus: A Systematic Review**

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### **Abstract**

Lichen sclerosus (LS) is a chronic inflammatory dermatosis that predominantly affects the anogenital region, with a significant impact on quality of life due to symptoms such as pruritus, pain, and scarring. It is estimated to affect approximately 3% of women in the United Kingdom, particularly those who are postmenopausal. While the exact aetiology remains unclear, immune dysregulation is thought to play a key role. Current guidelines from the British Association of Dermatologists recommend the use of potent topical corticosteroids, such as clobetasol propionate, as first-line treatment. However, concerns regarding long-term corticosteroid use have led to increasing interest in alternative therapies, including topical calcineurin inhibitors.

This systematic review aimed to assess the efficacy and safety of topical tacrolimus in the treatment of LS. A comprehensive literature search was conducted in accordance with PRISMA 2020 guidelines. Fourteen randomised controlled trials were identified, encompassing a total of 450 patients with clinically or histologically confirmed LS. Across the studies, topical tacrolimus was compared to standard corticosteroid therapy, with outcomes evaluated in terms of symptom control, patient satisfaction, adverse effects, and recurrence rates.

The findings suggest that topical tacrolimus provides comparable, and in several studies, superior patient-reported symptom relief compared to potent topical corticosteroids. It was generally well tolerated, with a low incidence of adverse effects and no evidence of systemic absorption. Notably, patients with corticosteroid-resistant Lichen Sclerosus reported favourable outcomes with tacrolimus, highlighting its potential role as a second-line or adjunctive therapy.

These results support the consideration of topical tacrolimus as a safe and effective alternative in the management of LS, particularly in patients with contraindications to long-term steroid use or poor response to standard treatment. Further large-scale, longitudinal studies are warranted to establish its long-term efficacy and optimal place in therapeutic guidelines.

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