

Could light-based technologies replace high potency corticosteroids in the treatment of vulvar lichen sclerosus?

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Abstract

INTRODUCTION: Vulvar lichen sclerosus (LS) is considered a chronic inflammatory dermatosis that affects woman's anogenital area and may cause scarring of the vulva and sexual dysfunction. Currently, there is no cure for LS and the treatment is based on the topical application of high-potency corticosteroids (HPCs). The cutaneous atrophy, irritation, hypopigmentation, blistering, and dryness that HPCs cause are, however, undesirable side effects. Light-based technologies have been employed as an alternative for LS therapy since they are less invasive and promote positive results. **OBJECTIVE:** Systematically examine whether light-based technologies may be a suitable option for the treatment of LS. **METHODOLOGY:** We followed the guidelines recommended by PRISMA to conduct this review and registered the protocol on the PROSPERO. We searched original articles published in English on Medline, Web of Science, Embase, Clinical Trials, and Cochrane databases. We covered all light-based technologies for treating LS using the following strategy: ((LIGHT OR LASER OR LED OR LIGHT-EMITTING DIODE OR PHOTOTHERAPY OR PHOTODYNAMIC) AND (VULVAR LICHEN SCLEROSUS)). For eligibility, studies should present the number of patients per group, consistent methodology, reliable light source parameters, and HPC-treated control group. For the assessment of the quality of included studies, we used the Cochrane risk of bias (RoB) tool. **RESULTS:** Overall, the search turned up 582 articles. Of these, 579 were excluded, including duplicates (n= 227), reviews, letters, comments, preclinical studies (n= 292) articles without an HPC control group (n = 34), light-based technologies used as an adjuvant (n= 2), ongoing trials (n= 17), and other diseases associated with LS (n= 7). As a result, three studies were included in which 3 different technologies were used: CO₂ high power laser, 5-aminolevulinic acid-mediated photodynamic therapy (ALA-PDT), and ultraviolet-A (UVA) phototherapy. UVA caused erythema, pruritus, skin xerosis, and tanning, even though it has promoted less burning and suffering. In contrast, CO₂ laser and ALA-PDT were able to provide higher patient satisfaction. Overall, RoB was considered low for the articles assessed. **CONCLUSION:** Despite the lack of a defined treatment procedure, ALA-PDT and CO₂ laser are both promising approaches to treat LS. More randomized clinical trials using light-based technologies should be conducted to improve evidence-based healthcare for women with LS.

Key words: laser, LED, phototherapy, photodynamic therapy, systematic review.

Study type: Revisão (Review)