

Fractional CO₂ laser versus promestriene and lubricant in genitourinary syndrome of menopause: a randomized clinical trial

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Abstract

Objectives

The aim of this study was to compare the effects of fractional CO₂ laser therapy, promestriene, and vaginal lubricants on genitourinary syndrome treatment and sexual function in postmenopausal women.

Methods

We performed a randomized clinical trial including 72 postmenopausal women over the age of 50 years. The women were randomized into three intervention groups to receive one of the following treatments: three sessions of intravaginal fractional CO₂ laser therapy; 10mg of intravaginal promestriene cream 3 times a week; and vaginal lubricant application alone. Vaginal maturation, Vaginal Health Index (VHI) score, and Female Sexual Function Index (FSFI) were evaluated at baseline and after 14 weeks of therapy.

Results

We observed an improvement in the vaginal elasticity, volume, moisture, and pH in the CO₂ laser and promestriene groups. The VHI score at 14 weeks was higher in the CO₂ laser group (mean score 18.68) than in the promestriene (15.11) and lubricant (10.44) groups ($P < 0.001$). Regarding vaginal maturation, basal cells were reduced and superficial cells were increased after treatment. This improvement was more significant in the CO₂ laser group ($P < 0.001$). The FSFI score only showed improvement in the desire and lubrication domains in the CO₂ laser group. There were no differences in total FSFI score among the three treatment groups. There were no adverse effects associated with any of the treatments.

Conclusions

The use of fractional CO₂ laser therapy to treat genitourinary syndrome resulted in better short-term effects than those of promestriene or lubricant with respect to improving the vaginal health in postmenopausal women.