

The effect of microablative fractional CO₂ laser on vaginal flora of postmenopausal women

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Abstract

Objectives

To assess the effect of microablative fractional CO₂ laser (MFCO₂-Laser) therapy on the vaginal microenvironment of postmenopausal women.

Methods

Three laser therapies at monthly intervals were applied in postmenopausal women with moderate to severe symptoms of genitourinary syndrome of menopause, pH of vaginal fluid >4.5 and superficial epithelial cells on vaginal smear <5%. Vaginal fluid pH values, fresh wet mount microscopy, Gram stain and aerobic and anaerobic cultures were evaluated at baseline and 1 month after each subsequent therapy. Nugent score and Hay-Ison criteria were used to evaluate vaginal flora.

Results

Fifty-three women (mean age 57.2±5.4 years) participated and completed this study. MFCO₂-Laser therapy increased Lactobacillus (p < 0.001) and normal flora (p < 0.001) after the completion of the therapeutic protocol, which decreased vaginal pH from a mean of 5.5±0.8 (initial value) to 4.7±0.5 (p < 0.001). The prevalence of Lactobacillus changed from 30% initially to 79% after the last treatment. Clinical signs and symptoms of bacterial vaginosis, aerobic vaginitis or candidiasis did not appear in any participant.

Conclusions

MFCO₂-Laser therapy is a promising treatment for improving the vaginal health of postmenopausal women by helping repopulate the vagina with normally existing Lactobacillus species and reconstituting the normal flora to premenopausal status.