

Evolution of Minimally Invasive Laser Treatments for Vaginal Atrophy

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SUMMARY

Vaginal atrophy is an inflammation of the vagina due to the thinning and shrinkage of tissues, as well as decreased lubrication. The cause of vaginal atrophy is usually a normal decrease in estrogen as a result of menopause. The symptoms can include vaginal soreness and itching, as well as painful intercourse and bleeding after sexual intercourse. This happens naturally during perimenopause and increasingly in post-menopause.

The symptoms related to vaginal atrophy are a significant problem for postmenopausal women. Estrogen has been the gold standard for its treatment, although recently laser treatments with different ablative and non-ablative wavelengths have proved to be an effective, minimally invasive, non-systemic treatment option for the symptoms of vaginal atrophy.

The objective of this study was to compare the efficacy and safety of two minimally invasive laser procedures for treatment of vaginal atrophy; a new non-ablative Erbium:YAG procedure RenovaLase™ was compared with our previous experience using an ablative CO₂ laser procedure. Patients that presented typical symptoms of vaginal atrophy due to the lack of estrogens after menopause were treated with two different types of laser technologies: 10600 nm of wavelength (CO₂) and 2940 nm (Er:YAG).

The first group was treated with an ablative CO₂ scanner-guided fractional laser, while the second group received application of a non-ablative, SMOOTH mode Er:YAG pulse delivered through an intravaginal gynecological handpiece set. Both groups were evaluated with a sexual questionnaire, vaginal cytology and vaginal biopsies. Patient discomfort during the treatment and post-op was assessed with a numerical pain-rating scale. Follow-ups were performed at 3 and 6 months after the treatment.

70 patients were included in this study, 35 in each group. Both groups were similar with regard to demographic data and history of vaginal atrophy. Although both groups showed improvement in the trophism of the vagina, the non-ablative treated

patients did not present complications that were commonly observed in the CO₂-treated patients; in addition, patients treated with non-ablative Er:YAG achieved better and more long-lasting results than the CO₂-treated ones. Patient discomfort during the treatment, as well as in the post-op period, was significantly higher in the CO₂ group.

The results of this study show that the RenovaLase™ non-ablative Er:YAG laser procedure is gentler and less invasive than the ablative CO₂ procedure. In addition, the RenovaLase™ Er:YAG procedure can provide better results, avoiding undesirable complications that are present in more invasive laser treatment alternatives. Although our findings suggest that treatment based on the principle of selective photothermolysis can increase tissue metabolic activity and thereby improve the conditions caused by vaginal atrophy, more research is needed to better address the use of lasers for this purpose.

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