Comparison of New Minimally Invasive Er:YAG Laser Treatment and Hormonal Replacement Therapy in the treatment of Vaginal Atrophy

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Objective
The objective of this study was to compare the efficacy and safety of two minimally invasive procedures for treatment of vaginal atrophy; a new Er:YAG laser procedure and hormonal replacement therapy with estriol.

Method
50 vaginal atrophy patients were randomly divided in two equal groups. **Group A** patients were submitted to long term estriol therapy: 0.5 mg/day 3 times a week during 2 weeks, followed with the same estriol dosage twice a week for 4 weeks. **B group** patients firstly got the same short term estriol therapy for 2 weeks, followed with 3 sessions of Er:YAG laser treatment, with 3 weeks interval between the sessions. Therapy efficacy was measured using maturation value, pH value, VAS scores for atrophy symptoms: Dyspareunia, Dryness, Irritation and Leukorrhea. On 6 patients from each group biopsies were taken (before and 3 months post-op). Follow-ups were at 1 month, 3 months and 6 months after the therapy.

Results
Both groups showed improvement in atrophy, but laser therapy showed better and longer lasting effects. Maturation value in **A group** improved from 22.5 points to 24.7 points at 6 months follow-up. In comparison to that **B group** improvements was from 20.8 points to 47.9 points. pH value improved at 3 months for 7.2% in **A group**, and for 17.6% in **B group**. Dyspareunia in **A group** improved for 48%, and in **B group** for 72%; Dryness in **A group** for 68%, in **B group** for 76%; Irritation in **A group** for 48%, in **B group** for 60% and Leukorrhea in **A group** for 81%, while in **B group** for 94%. Both groups tolerated the therapy well and adverse effects were mild and transient.

Conclusions:
Hormonal replacement therapy is considered to be the first choice for vaginal atrophy, but this new minimally invasive Er:YAG laser procedure seems to be safe and efficacious alternative with potential to offer to vaginal atrophy patients longer period of symptom free life.