

Laser Thermotherapy in Pelvic Floor Dysfunction - a Randomized Placebo-Controlled Study

Adolf Lukanovič

Department of Obstetrics and Gynecology, University Medical Center Ljubljana, Slovenia

SUMMARY

Pelvic floor dysfunction results in numerous pathologies which impact the patient's quality of life. New technologies such as photo-thermal laser therapy enable non-invasive patient treatment.

The objective of this paper was to confirm the use of laser treatment for pelvic floor dysfunction. The elasticity of the pelvic floor is based on the function of collagen, elastin and specific glycoproteins synthesized in the fibroblasts. Laser photo-thermal interaction with the tissue destroys the intermolecular connections, thus stabilizing the collagen triple-helix structure and consequently shortening the collagen fibrils. Aside from the immediate shrinkage of collagen fibers, the laser thermal action also initiates the generation of heat-shock proteins, which in turn starts the process of neocollagenesis. The treatment protocol we evaluated (IncontiLase™, Fotona, Slovenia) enables non-ablative laser thermotherapy, without the removal of tissue.

To evaluate the effectiveness for stress urinary incontinence and the impact of the therapy on the elasticity of the vaginal wall, 120 patients were involved in a placebo-controlled study approved by the National Medicinal Ethics Committee. The procedure with the Er:YAG laser (XS Dynamis, Fotona Slovenia) is short and painless, and no anesthetic is needed. Evaluation, based on the PISQ-12 test, ICIQ-UI SF and FSFI, was performed before and 3 months after the treatment. Muscle strength of pelvic floor was evaluated by measuring changes of vaginal pressure with a perineometer (Myomed 632X, Enraf-Nonius, Netherlands).

Preliminary results of the photo-thermal laser therapy for stress urinary incontinence are promising and suggest that the Er:YAG laser procedure may represent the future of non-invasive therapy for the treatment of pelvic floor dysfunction.

The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by medical equipment manufacturers. When in doubt, please check with the manufacturers about whether a specific product or application has been approved or cleared to be marketed and sold in your country.