

# Vaginal erbium laser as second-generation thermotherapy for the genitourinary syndrome of menopause: a pilot study in breast cancer survivors.

Marco Gambacciani; Marco Levancini

## Abstract

**Objective:** The aim of this study was to evaluate the efficacy and acceptability of a second generation of vaginal laser treatment, the vaginal erbium laser, as a nonablative photothermal therapy for the management of genitourinary syndrome of menopause in postmenopausal breast cancer survivors.

**Methods:** The study was performed using an erbium laser crystal yttrium-aluminum-garnet (XS Fotona Smooth, Fotona, Ljubljana, Slovenia) with a wavelength of 2,940 nm. Forty-three postmenopausal breast cancer survivors were treated with three laser applications every 30 days. Symptoms were assessed before the treatment and after 1, 3, 6, 12, and 18 months, using two methods, subjective Visual Analog Scale (VAS) and objective Vaginal Health Index Score (VHIS). The procedures were performed on an outpatient basis without anesthesia or drug use before or after the intervention.

**Results:** From baseline values of  $8.5 \pm 1.0$  cm, vaginal dryness VAS scores were  $4.4 \pm 1.2$  cm after the third treatment and  $5.5 \pm 1.5$  cm 12 months after the treatment ( $P < 0.01$  vs basal values), whereas they were  $7.5 \pm 1.8$  cm after 18 months from the last laser application (NS vs basal values). From baseline values of  $7.5 \pm 1.5$  cm, dyspareunia VAS values decreased to  $4.2 \pm 0.9$  cm after the third treatment and  $5.1 \pm 1.8$  cm 12 months from the last laser application ( $P < 0.01$  vs basal values), whereas they were  $6.5 \pm 1.8$  cm after 18 months from the last laser application (NS vs basal values). VHIS, from baseline values of  $8.1 \pm 1.3$ , was  $21.0 \pm 1.4$  after the third treatment and  $18 \pm 1.8$  12 months from the last laser application ( $P < 0.01$  vs basal values), whereas they were  $14.8 \pm 1.5$  cm after 18 months from the last laser application (NS vs basal values). No adverse events were recorded during the study.

**Conclusions:** This study suggests that the vaginal erbium laser is effective and safe for the treatment of genitourinary syndrome of menopause in breast cancer survivors.