

# Vaginal CO<sub>2</sub> laser for the treatment of vulvovaginal atrophy in women with breast cancer: LAAVA pilot study

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## Abstract

### Purpose

Vulvovaginal atrophy (VVA) is a commonly reported issue among breast cancer patients, and its aetiology is multifactorial. Treatment is difficult in these women, particularly because the use of oestrogens has traditionally been discouraged. Vaginal laser treatment has been reported to improve symptoms. We aimed to assess the impact on symptoms and sexual function of vaginal laser in women with early breast cancer (EBC).

### Methods

We performed a single-arm investigator initiated pilot study of female EBC patients with symptomatic VVA. A total of 3 vaginal laser treatments were administered 4 weeks apart. Questionnaires were completed at baseline, 4, 8 and 12 weeks. Our primary endpoint was symptomatic improvement of VVA at 12 weeks on 10 cm visual analogue scales. Our secondary endpoints were improvement in sexual function using the Female Sexual Function Index (FSFI) and patient-reported improvements in symptoms, sexual function and quality of life. Statistical analysis was performed with a Wilcoxon Signed Rank test.

### Results

26 patients were enrolled between February 2016 and August 2017. All patients were post-menopausal, 25 of whom had received anti-oestrogen therapy for their breast cancer. Questionnaire compliance was high (98%) and all patients received the three pre-planned treatments. There was significant improvement in each of the VVA symptoms: dryness ( $p < 0.001$ ), itch ( $p < 0.001$ ), burning ( $p = 0.003$ ), dysuria ( $p < 0.001$ ) and dyspareunia ( $p < 0.001$ ). Patients also reported improvement in sexual function on the FSFI ( $p \leq 0.001$ ).

### Conclusions

Patients receiving vaginal laser had improvement in VVA symptoms and sexual function. Further randomised sham-controlled trials are needed to further assess this treatment.