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Fractional CO₂ laser for treatment of stress urinary incontinence

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Abstract

Objectives

To evaluate the impact of trans-vaginal fractional CO₂ laser treatment on symptoms of stress urinary incontinence (SUI) in women.

Study Design

Women clinically diagnosed with SUI preferring non-surgical treatment were recruited to the study. Fractional CO₂ laser system (MonaLisa T, DEKA) treatments were administered trans-vaginally every 4-6 weeks for a total of three treatments. Response to treatment was assessed at baseline (T1), at 3 months after treatment completion (T2) and at 12-24-month follow-up (T3) using the Australian Pelvic Floor Questionnaire (APFQ). The primary outcome was changes in reported symptoms of SUI. Secondary outcomes assessed included bladder function, urgency, urge urinary incontinence (UUI), pad usage, impact of urinary incontinence on quality of life (QOL) and degree of bothersome bladder.

Results

Fifty-eight women were recruited and received the study treatment protocol. Eighty-two percent of participants reported an improvement in symptoms of SUI at completion of treatment (mild to no SUI) ($p < 0.01$). Treatment effect waned slightly when assessed at follow-up. Nevertheless, 71% of participants reported ongoing improvement in SUI symptoms at 12-24 months ($p < 0.01$). All secondary outcome measures were improved after treatment compared to baseline.

Conclusions

This study suggests that fractional CO₂ laser is a safe, feasible, and beneficial treatment for SUI and may have a role as a minimally-invasive alternative to surgical management.