

# Long-term effect of thermoablative fractional CO<sub>2</sub> laser treatment as a novel approach to urinary incontinence management in women with genitourinary syndrome of menopause

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## Abstract

### Introduction and Hypothesis

The aim of this study was to evaluate the long-term effect of thermoablative fractional CO<sub>2</sub> laser (TACO2L) as an alternative treatment for early stages of stress urinary incontinence (SUI) in postmenopausal women with genitourinary syndrome of menopause.

### Methods

A total of 161 postmenopausal patients (age 53.38 ± 5.1 years, range 45-65 years) with a clinical diagnosis of mild SUI were prospectively enrolled in the study. Patients received one treatment with TACO2L every 30-45 days, each treatment comprising four sessions, followed in all patients by a yearly treatment session at 12, 24 and 36 months. SUI was evaluated using the International Continence Society 1-h pad test and the International Consultation on Incontinence Questionnaire-Urinary Incontinence Short Form (ICIQ-UI SF) before and after TACO2L treatment.

### Results

TACO2L treatment was associated with a significant improvement in ICIQ-UI SF scores and 1-h pad weight test at 12 months (both  $p < 0.001$ ), 24 months (both  $p < 0.001$ ) and 36 months (both  $p < 0.001$ ). Improvements were maintained for up to 36 months without the need for any further intervention. The results were confirmed by significant histological changes related to trophic restoration of the vagina, responsible for extrinsic and intrinsic mechanisms involved in urinary continence.

### Conclusions

Our results suggest that TACO2L is an efficient and safe novel treatment strategy in patients with mild SUI. Further investigation to confirm the long-term results presented here is still warranted.