**883**

Sencar S[1], Bizjak-Ogrinc U[1]
***1.*** *Juna Clinic, Ljubljana, Slovenia*

# IMPROVEMENT OF STRESS URINARY INCONTINENCE IN WOMEN AFTER ERYAG LASER TREATMENT

Hypothesis / aims of study

The purpose of this study was to report the outcomes of newly proposed minimally invasive laser therapy for female stress and mixed urinary incontinence (SUI and MUI). There were two main objectives of our study: to assess the efficacy of this therapy and to evaluate its discomfort and safety.

Although there are already many therapies for SUI, from conservative ones like pelvic floor muscle exercises and electrical or magnetic stimulation to various surgical like TOT and TVT, there is still need for non-surgical but effective therapy. Lately, novel laser therapy based on thermal action on vaginal mucosa appeared on the market and if its declared minimal invasiveness and efficacy are real, it could become a very attractive therapy for many women suffering from SUI.

Study design, materials and methods

This is a single arm prospective pilot study performed in one medical centre from March 2012 to March 2013. 107 women older than 18 years, being diagnosed with stress or mixed incontinence which signed informed consent were included in this study. Average age was 50.1 years (range 22-77), BMI: 24,4 (range 17.4–35.1) and parity 2.0 (range 0-4).

Prior to treatment all patients were clinically inspected, and classified by incontinence types and severity using ICIQ-UI and forming from ICIQ-UI score (without QoL) the Incontinence Severity Index (ISI) according to Kovning [1]. Severities of UI were defined as: no UI (0 points), mild (1-3), moderate (4-5), severe (6-9) and very severe (10-11).

All patients were treated with ErYAG laser (SP Spectro, Fotona, Slovenia) according to manufacturer's protocol. Treatment discomfort was measured at every session with 11 point (0-10) numerical pain scale. Follow-ups with repeated measurements were performed at 2 and 6 months. Aside of assessment tools used before the treatment, patients were interviewed about adverse effects and satisfaction with the therapy (using five grade satisfaction scale 0-4). At first follow-up (2 months), the patients which wanted additional improvement were treated for the second time.

Results

Among 107 patients included in this study 67 of them (62.6%) were diagnosed SUI and 40 (37.4%) MUI. Incontinence severity before the treatment: 19 (17.%) patients had mild, 30 (28%) moderate, 50 (46.7%) severe and 8 (7.5%) very severe UI. Average ICIQ-UI score, without QoL was 5.7 points. 41 patients (38.3%) received one and 66 (61.7%) two laser treatments. At 6 months follow-up large majority of patients (102 or 96.3%) reported decrease of their UI severity grades and only 4 of them did not improved their UI severity grade. At 6 months follow-up 72 patients (67.3%) were continent, 22 (20.6%) remained with mild UI, 9 (8.4%) patients with moderate and 4 patients (3.7%) with severe UI. There were no patients with very severe UI after the therapy. Average ICIQ-UI score, without QoL at both follow-ups was 1.0 point.

Treatment discomfort was very low (average grade 0,6 on 10 points scale) large majority of patients asses their improvement as significant or excellent (79.4% at 2M and 92.5% at 6M). There were no adverse effects of this treatment reported.

Interpretation of results

Our results showed that not only SUI, but also MUI could achieve significant improvement when treated with this laser therapy. Considering the mechanism of action of this laser therapy – controlled thermal action on vaginal mucosa, causing collagen shrinkage – we assume that stress component of MUI is improved, leaving patient with urge component only. This fact was confirmed also with MUI patients follow-up answers to sixth question of ICIQ-UI inquiring about causes for leakage.

For evaluation of duration of this laser therapy effects, longer follow-up is necessary and we are looking forward to see our patients at 12 and 24 months post-op.

Concluding message

New non-invasive Er:YAG laser treatment for stress and mixed urinary incontinence showed high efficacy in improvement of UI without adverse effects noted. Patients' discomfort during the treatment was minimal and satisfaction very high.

References

1. Klovning A, Avery K, Sandvik H, Hunskaar S., Comparison of two questionnaires for assessing the severity of urinary incontinence: The ICIQ-UI SF versus the incontinence severity index, Neurourol Urodyn. 2009;28(5):411-5

Disclosures

**Funding:** NONE **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** Informed consent was obtained from all of the patients. **Helsinki:** Yes **Informed Consent:** Yes