

## Prediction of Er:YAG Laser Treatment's Short-term Efficacy on Stress Urinary Incontinence in Women; a Croatian Prospective Cohort Study

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### SUMMARY

**Aim:** To find the pre-intervention predictors of short-term outcomes with non-invasive laser treatment for mild-to-severe SUI, and to identify female patient segments with the highest Er:YAG laser treatment short-term efficacy.

**Methods:** A prospective cohort, single-center study at an Ob/Gyn Clinic in Zagreb, Croatia, recruited a consecutive sample of 85 female patients suffering from SUI. The procedure was performed with a 2940 nm Er:YAG laser (XS Dynamis, Fotona, Slovenia) designed to achieve heating up of vaginal mucosa to around 60°C, 500-700 microns in depth. The key outcome was a relative change of ICIQ-UI  $\geq 30\%$ . We decided to use the  $\geq 30\%$  cut off point based on Nystrom et al. 2015 (1). In this study this was the mean ICIQ-UI change at the first follow up, four months from the intervention in women that received pelvic floor muscle training, the standard non-invasive SUI therapy.

**Results:** In the total sample, the mean relative decrease of ICIQ-UI one month after the intervention was 50% (SD 46%). After adjustment for age, body mass index, parity, average birth weight, perineometry average pressure, and baseline residual urine by multivariate binary logistic regression, the factors of lower age and lower Q-tip test angle significantly increased the probability of effective intervention ( $P=0.049$ ;  $P=0.010$  respectively). Below the age of 44 and after the age of 57, only age was a significant predictor. Both age and Q-tip test result were significant predictors if women were 45-56 years old. The patient segment with the highest treatment efficacy was women younger than 48 years whose average birth weight was  $>3.61$  kg. The mean ICIQ-UI relative decrease in this segment was 92% (SD 19%), which was 84% more than the average of the whole sample.

**Conclusion:** Age and Q-tip test results, and their interaction, may be used as predictors of laser treatment efficacy on SUI. The highest Er:YAG laser treatment short-term efficacy may be expected at women younger than 48, whose average birth weight was  $> 3.61$  kg.

## 5 Years Follow-Up of Onychomycosis Patients Treated with 1064 nm Nd:YAG

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### SUMMARY

The frequency of recurrence of onychomycosis is not known, recurrence rates between 6.5% and 53% have been reported, despite successful treatment with oral antifungal drugs.

1064 nm Nd:YAG laser treatment of fungal nail disease was clinically evaluated on a Ukrainian patient population. 108 patients exhibiting 312 infected nails were treated with 1064 nm Nd:YAG laser at a single clinical site over a period of two years (2010-2012). All patients were diagnosed with one of four types of onychomycosis, caused by various fungi.

At the 1 year follow-up, 89 patients (82.4%) were cured; 80 of which (74.1%) had negative fungal cultures and 9 (8.3%) showed clinical improvement, while 19 patients (17.6%) were non-responsive to the therapy.

During the 5 year period we observed recurrence in 23 cases, among them only 7 cases at late period (8-14 months). All recurrence patients were treated additionally (by laser in case of recurrence at 1-6 months and oral terbinafine at late period). Only one case of late recurrence (after 12 months) was never cured.

The last follow-up was done by the telephone interview. We could interview only 94 patients out of 108. Only 3 of the non-available patients had bad result after the treatment and 11 had good. At 5 years after the treatment 78.7% of interviewed patients remained cured and only 20 patients (21.3%) were uncured.

Thus we conclude that Nd:YAG 1064 laser treatment demonstrates good clinical result in the long term. It is safe, effective and doesn't lead to greater recurrence after 5 years than traditional oral drugs.

Tukaj vnesite enačbo.

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