Preliminary Outcome of Non-ablative Vaginal and Intraurethral Er:YAG Laser Treatment for Female Stress and Mixed Urinary Incontinence

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This prospective study presents a preliminary result to compare the clinical efficacy of patients with stress urinary incontinence and mixed urinary incontinence using minimal invasive Er:YAG vaginal laser, and also determine the safety and efficacy of a new non-ablative intraurethral Er:YAG laser procedure for the treatment of type III stress urinary incontinence.

A total of 20 patients were included, of which 10 were patients with SUI and 10 were patients with MUI (stress and urge incontinence). The patients underwent a 2940 nm Er:YAG laser procedure with a special SMOOTH mode in an outpatient office without anesthesia or postoperative medications. All patients completed two sessions of treatment with an interval time of 28 days. At three months after treatment, all patients were asked to return for a clinical visit to evaluate the clinical outcome by pre-treatment and post-treatment ICIQ-SF questionnaire. At pretreatment and 3 months after the completion of two therapy sessions, the patients were asked to answer the ICIQ-SF questionnaire. The questionnaire consists of three scales for assessment of the treatment outcome of urinary incontinence as: no change (no change score), improvement (a decreased score from 1-5), and strong improvement (a decreased score >5) for two groups of patients with SUI and MUI. All the results were compared by Student's t test with two way analysis of variance between the two groups.

For those who didn't respond well to the vaginal Er:YAG laser treatment, we will ask about their willingness to come back for another treatment of intraurethral Er:YAG laser procedure. The patients will receive one intraurethral laser session and follow-ups will be performed at 1 and 3 months after the laser session. ICIQ-SF questionnaire was performed at baseline and at the 1 and 6 month follow-ups.

Results: A total of 20 patients presented with SUI symptom relief and improvement with treatment satisfaction. All 10 patients with SUI reported improvement after vaginal laser treatment, 70% with marked improvement and 30% with improvement. All 10 patients with MUI also had improvement, 40% with marked improvement and 60% with improvement. There was no statistically significant difference in the treatment outcome between the two groups.

Erbium:YAG laser provides vaginal collagen remodeling and synthesis that can repair and restore the pelvic floor function. Despite or sample limitation and short follow up, this treatment procedure presented a good and a safe clinical outcome in patients with SUI and with MUI.

Vulvar Whitening with StarWalker

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Most gynecology laser users have a FotonaSmooth® laser system model with only an Er:YAG laser. When doing vulvar whitening with this laser, users usually utilize MSP cold Er:YAG peel. The most common parameters are: 1.2 J/cm^2, 7 mm, 3 Hz. Users of the SP Dynamis system have both Er:YAG and Nd:YAG lasers and can add the FRAC3 4 mm spot size with 15 J/cm^2, 0.1 ms and 5 Hz, with Zimmer level 2.

We recently started to work with the StarWalker Q-switched laser system. This laser is dedicated to the treatment of pigmentations and tattoos, and we are now incorporating into our vulvar whitening treatment the MaQX hybrid pulse from the 1064 nm StarWalker with the following settings: 8 mm spot size with 1.2 - 2.0 J/cm2, 2 Hz.

Our protocol consists of 3-4 sessions of laser treatments with one month intervals. During the interval in between the sessions we are additionally working on the control of tyrosinase using topical creams like are hydroquinone 2-6%, kojic acid or Vitamin C 5%.

In this presentation I'll show the results of this StarWalker protocol performed on 10 patients.