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Case Report

Sui Grade III and 50% of Urethra-Length

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Abstract

We report the case of a 33 year old patient, which SUI grade III after spontaneous delivery. During examination, we found out that urethra length was only 15 mm. As normal we see an urethra length of 30-50 mm. After local estrogen and Yentreve medication were rejected by the patient, we treated this patient with a new intraurethral laser system. Final outcome was an improved situation, where SUI III could be managed in the daily routine of the patient.

Keywords: SUI grade III; Laser treatment; Urine leakage

1. Introduction

In our clinics SUI grade III patients are in some way daily routine. We have safe diagnostics and due to the long experience of the urogynecological community very good prognosis for our patients. A mesh or sling operation, therefore, seems to be the most efficient and promising way to get our patients free of symptoms fast and for a long time. But mesh or sling operation needs a minimum of anatomic requirements. On major parameter for a successful outcome with this type of intervention is that the positioning of sling or mesh along the urethra is done properly. According to the individual anatomic situation the support of the urethra has to be done at a specific position. Each mesh or sling covers itself approximately 15 mm of space. At an urethra of 15 mm length, we have only one single position to place it. In the end, it is an intervention which gives us only the hope that this one position is just the right one for our patient.

2. Case Report

In April 2019, a registered gynecologist transferred a 32-year old patent to our clinics with gynecological anamnese of SUI grade II after spontaneous delivery, patient had no operative interventions before. Pop-Q and urodynamics were inconspicuous. During

gynecological examination, we found front compartment with signs of atrophie, orethrocele and cystocele grade 1, middle compartment with decensus uteri grade 1 and rear compartment with rectocele grade 1. Functional examination with filled bladder showed massive urine leakage when straining and coughing. Vaginal sonography gave us unclear structure with low echo of about 17 × 14 mm right side paraurethral, uterus was retriflected in the cavum. (hab ich das richtig übersetzt). Abnormalities we could find during pelvic floor sonography. Funnel formation of the urethra under stress. Sonographic measurement of residual urine gave 20 ml. The most prominent abnormalities were positive palpation test. We diagnosed SUI grade 3, a light hypotony and intrinsic sphincter deficiency. The urethra length we measured was 15.7 mm (bladder filled with 230 ml). In comparable situation a normal length will be about 30 mm.

2.1 Therapy I

Our first approach was conservative treatment: 3× local estrogen per week, continuing with regularly pelvic floor exercise and Yentreve medication. And her registered gynecologist had recommended her to use a tampon therapy.

1st recall after three months: Incontinence was improved by estrogen and Yentreve. Functional examination still with massive urine leakage when straining and coughing. There we recommended to continue the medication scheme. But from the patient, we learned, that she heavily opposed to the medication as she gained weight during the three month period.

Considerations: As we know from our experience, that estrogen as well as Yentreve reduce the SUI-symptoms, but only during continuous medication. Discontinuation of estrogen and Yentreve will bring the patient in the same degree of symptoms as before. And the standard operative intervention was no choice, due to the shortness of the urethra. For such a young and active woman, we could not take the risk of a negative outcome, followed by life long history of pain and unhappiness.

From our SUI grade 1 cases we had good experience with laser treatment. The treatment concept is a so called micro-hyperthermia of the pelvic floor tissue. Laser is non-ablative, and works by a pattern of “overheated” but not denatured small single spots in the tissue. This makes the tissue to produce revascularization and new collagen for better quality of connective tissue. In literature we could find first reports, that an intraurethral application of non-ablative thermal load with lasers could as well improve SUI symptoms. The fact, that this treatment could as well been done by intraurethral application of radiofrequency devices strengthened our guess that it is a non-ablative thermal effect which is needed for improvement. Regarding the probability and severe consequences of a negative outcome of a sling or mesh implantation, regarding the unwanted side-effects of the medication scheme at this patient and regarding our long experience with non-ablative, thermal application - we had never strong and very seldom slight signs of unwanted side effects - we offered the patient this way of treatment.

2.2 Therapy II

As a direct step to enhance her quality of life we shifted from OB-tampons to large vaginal pessaries (Contam extra plus). For the laser treatment itself a good description was done by Gaspar and Brandi [2]. Different from them, we had 4 laser sessions, in a 4 weeks interval.

Outcome: The first signs of improved situation could be seen already after the 2nd laser session. At recall six months after final laser treatment, patient had no more urine loss when normal walking and doing light jogging exercise. She still had urine loss when coughing, but not when mounting stairs. All in all she could reduce number of toilet visits and was able do do regular light sport activities. We could achieve a significant reduction of pad-test and she reported as well an overall improvement of her quality of life. Sonography showed a visible funnel without urine loss at bladder filling of 250 ml. This situation was stable as well at the latest recall 1 year after last laser treatment.

3. Discussion and Conclusion

SUI is one of the most occurring forms of Urinary Incontinence. And therefore it is not surprising that our urogynecologist community has developed effective ways to treat this disease. And in 95% of our cases the normal treatment scheme is the one, our patients benefit most. In this case the anatomic situation was such special, that we saw our traditional treatment scheme as a risk and the alternative medication was seen by the patient as not acceptable. By using a non-ablative laser inside the urethra, we could achieve a tissue reaction similar to the effect of the laser on pelvic floor. We did not find out the mechanism of this functional tissue regeneration. But due to the situation of our patient, it would be worthwhile to put more attention to this use of non-ablative laser. In the end, we achieved a partly restoration of functional connectivity strength and as a consequence an improved quality of life for our patient.

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