A Rare Complication after SUI Treatment with TOT Technique

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Abstract

Introduction and Objectives. Urinary stress incontinence is an extremely important pathology due to its increased prevalence especially among females. With the treatment of this pathology, complications may also occur, manifested in various forms, which are not to be neglected and for which appropriate treatment should be instituted as early as possible. In the present paper, we present a rare complication case after a sub-urethral sling surgery, in the trans-obturator method.

Materials and Methods. A 64-year-old female patient with a history of sub-urethral tape placed for pure urinary incontinence (TOT), is hospitalized at the Urology Clinic in Braşov, for lower urinary tract symptoms with irritating character and urge urinary incontinence. The cystoscopic examination highlights: alloplastic material penetrating the bladder walls at the level of the trigon to the bladder neck, near the right ureteral orifice.

Results. An endoscopic section of the intravesical body and extraction is performed. Re-evaluation and the control, cystoscopy is performed which reveals a 2 mm of residual tape at the right side of the bladder neck. Extraction of the remnant intravesical fragment, transurethral resection and bladder catheterization was performed. The one-year follow-up cystoscopy revealed normal bladder and ureteral orifices, with a small fragment of the tape (millimeter) being submucosally integrated.

Conclusions. Stress urinary incontinence requires appropriate treatment, given the large number of reported cases. It is also of great importance to establish the correct treatment both conservatively and surgically, but it should not be forgotten that any surgical intervention may result in postoperative complications. Thus, the management of complications arising from surgical procedures to resolve effort urge incontinence (TOT, TVT) should be established as quickly as possible to avoid worsening the condition of the patient and resolving an early stage of pathology.

Key-words: urinary stress incontinence, complications, TOT, TVT

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Introduction And Objectives

Urinary stress incontinence is defined as an involuntary loss of urine with physical effort or during physiological actions such as coughing, sneezing, running or lifting weights. Unlike urinary urge incontinence, urinary stress incontinence appears as an involuntary loss of urine without being accompanied by the urge to urinate, and it is found more frequently in female sex compared to male sex.

In a meta-analysis of 48 studies conducted by Hampel and colleagues, it was revealed that stress urinary incontinence in female sex is found in a much higher percentage than urge urinary incontinence, the percent being 78% for stress urinary incontinence unlike urge urinary incontinence, the percentage of which accounted for 51% of cases. [1] [2]

Considering the increased prevalence of this pathology, it is especially important to have early diagnosis and appropriate treatment. Currently, there are a variety of surgical options, both surgical and non-surgical in nature, for which it can be chosen to treat urinary incontinence effort.

Conservative treatment of stress urinary incontinence may include estrogen drug therapy, electrical stimulation treatment, Kegel exercises (re-training the pelvic floor), or behavioral change (weight loss, smoking cessation).

Regarding the surgical treatment of urinary incontinence, it can be both minimally invasive (UCT para-urethral balloons or injection of resorbable or non-resorbable agents) and surgically (artificial sphincter, Burch technique, anterior colporrhaphy, and last but not least mounting of the "tension-free" sub-urethral tape, represented by the techniques: TVT - "tension free vaginal tape" or TOT - "trans-obturator tape") [3][4] [5]

Currently the most commonly used treatment methods for urinary stress incontinence are the mounting procedures of sub-urethral tapes (both TOT and TVT) and Burch colposuspension. Taking into consideration these aspects, it is well known that any surgical treatment may result in various complications like: haemorrhage, urethro-vaginal fistula, urethral or bladder perforation, urine retention, urinary infections, or "de novo" detrusor hyperactivity. [3] [4] [5] [6]

The objective of this paper is to present a rare case of complication treated in our clinic following surgical treatment for urinary incontinence effort through technique TOT performed in another surgical unit.

Materials and Methods

The 64-year-old M.G. patient in Braşov with a history of sub-urethral tape placed for pure urinary incontinence (TOT), 6 months ago in another surgical specialized unit, is hospitalized at the Urology Clinic in Braşov, for lower urinary tract symptoms with irritating character and urge urinary incontinence.

It is recommended that a cystoscopic exam to be performed of the first intention, considering that mictional urge may be a "de novo" (affirmatively, the patient did not present this symptom before mounting of the tape) or secondary to a possible bladder lesion.

The cystoscopic examination performed highlights: alloplastic material penetrating the bladder walls at the level of the trigon to the bladder neck, near the right ureteral orifice.

Surgery is recommended to remove the intravesical foreign body.

Results

An endoscopic section of the intravesical body and extraction is performed.

The postoperative evolution was favorable and the patient is discharged with the recommendation to perform a control cystoscopy at 1 month after the intervention.

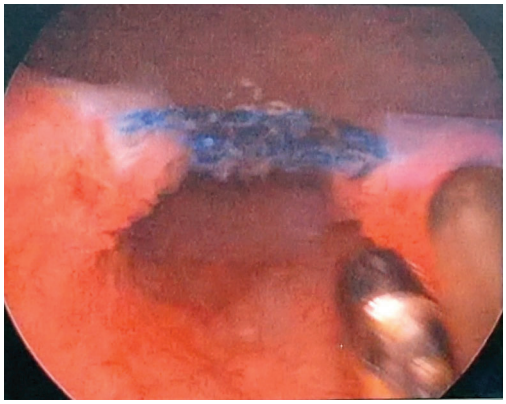


Fig 1. Cystoscopic aspect of the sub-urethral tape before sectioning

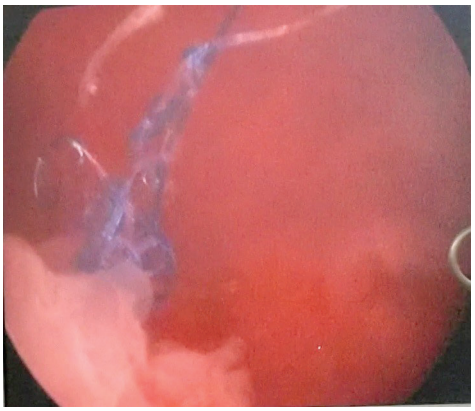


Fig 2. Sub-urethral tape fragment after sectioning

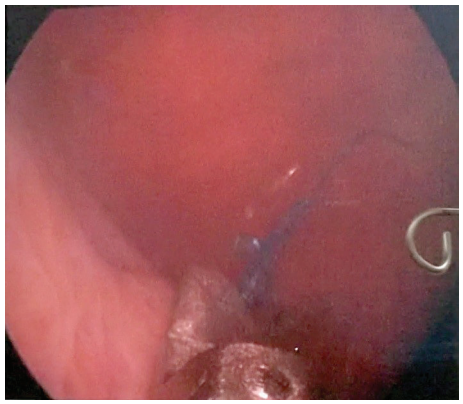


Fig 3. Sectioning of the remaining suburethral tape with laparoscopic scissor (Storz)

The patient returns to the Urology Clinic in Braşov for urological re-evaluation and the control, cystoscopy is performed which reveals a 2 mm of residual tape at the right side of the bladder neck. The patient is discharged with the recommendation of endoscopic re-intervention to remove the remaining intravesical foreign body.

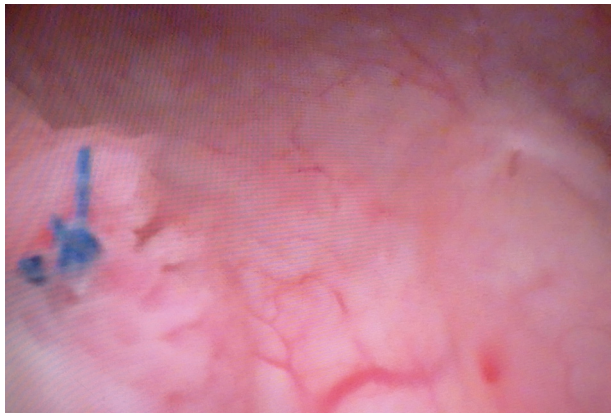


Fig 4. Remaining fragment of sub-urethral tape

The patient is re-hospitalized and extraction of the remnant intravesical fragment, transurethral resection and bladder catheterization was performed. After suppression of the bladder catheter, the postoperative evolution of the patient being favorable, the patient having the recommendation for urological re-evaluation two months after surgery.

Cystoscopic re-evaluation two months after intervention reveals free and normal bladder and ureteral orifices.

Control cystoscopy was performed one year after initial surgical intervention and reveals free and normal bladder and ureteral orifices, the small fragment of the tape (millimeter) being submucosally integrated.

Discussions

Stress urinary incontinence is one of the most common pathologies, which can significantly affect the quality of women's lives.



Fig. 5 Small submucosal restant fragment of sub-urethral tape

Although the prevalence of this pathology differs according to the population studied, there are studies showing that this pathology can be found in between 4% and 35% of the cases in the general female population. [7]

Thus, it can be said that the prevention of this disease and the establishment of its early treatment is of great importance.

One of the most widely used methods of urinary stress incontinence treatment is the mounting of sub-urethral tapes (both TOT and TVT).

Considering the fact that the installation of the sub-urethral tape is a method of surgical treatment, this procedure is not without complications.

Potić and colleagues showed in a study of a group of 64 women that although TOT and TVT are two effective surgical treatment methods for treating urinary incontinence, the complications of TVT are more common than those occurring following TOT. [8]

Among the complications that may arise from the mounting of sub-urethral tapes are bladder perforations, which in the case of TVT tapes may occur in a considerable percentage, of 0.7% to 24% of the cases. [9]

The cases of bladder perforation within the TOT tapes are extremely rare compared to the bladder and urethral perforation due to the installation of the TVT tapes but not non-existent, Tamussino and his collaborators have thus exhibited to the Austrian registry for the mounting of TOT tapes a number of 10 bladder perforations and 2 urethral perforations of 2,541 cases for which the sub-urethral tape was assembled in the TOT manner. [10]

Another complication of sub-urethral tape mounting in the TOT manner is haemorrhage in the form of massive intraoperative hemorrhage, pelvic or retropu-

bic hematomas that may occur in 1% to 2% of cases. [10]

Also, regarding to vaginal or urethral erosions and extrusions, Lathes and collaborators showed in a meta-analysis of the efficacy and complications of both procedures (TOT and TVT) that the incidence of vaginal lesions, erosions and extrusions was twice as high in the group TOT compared to TVT. [9]

Deval reported an incidence of 0.7% of vaginal erosion in the suburethral tape assemblies in the manner of TVT compared to the mounting of the suburethral tape in the TOT manner where the percentage was 13.8% of cases. [11]

One of the complications to be mentioned is the urge urinary incontinence by "de novo". Thus, Ballert et al. reported that "de novo" urinary incontinence ranges from 0.2% to 15% of the cases after the suburethral tape assembly in TVT method and from 2.1% to 13.9% after the " mid-urethral " TOT. [12]

Also, Kaelin-Gambirasio and colleagues showed a frequency of 6.2% of cases of "de novo" urinary incontinence with regard to tapes in the TOT.[13]

Moreover, the same study by Kaelin-Gambirasio et al. revealed that of 67% of sexually active women, 9% of them presented a complication of dyspareunia "de novo" as a postoperative complication. [13]

Urinary retention may be referred to as another complication of mounting in the TOT manner, but its postoperative incidence is rather low, the percentage of cases being around 1.5%. [11]

The case presented could be interpreted as a urge urinary incontinence by "de novo", in the context in which the patient presented for lower urinary tract irritating symptomatology and urge urinary incontinence. However, additional investigations are needed to exclude other side-effects of the intervention. Cystoscopy actually revealed a complication of sub-urethral mounting surgery in the TOT procedure.

The way to solve such a complication is different from case to case and often requires ingenuity from the treating physician to solve the problem.

Performing a cystoscopy immediately after or during surgery would have found and allowed to solve the complications at a much better time.

Fortunately, the presented case evolved without further complications at a distance. The small fragment of the remaining band (millimetric), being integrated submucosally, as evidenced at the last cystoscopy, the patient not developing infectious complications or local fistula.

Conclusions

Stress urinary incontinence requires appropriate treatment, given the large number of reported cases. It is also of great importance to establish the correct treatment both conservatively and surgically, but it should not be forgotten that any surgical intervention may result in postoperative complications.

Thus, the management of complications arising from surgical procedures to resolve effort urge incontinence (TOT, TVT) should be established as quickly as possible to avoid worsening the condition of the patient and resolving an early stage of pathology.

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