

A case of iatrogenic urinary incontinence following an intravaginal sling with transobturator passage

L. Pirtea,
D. Grigoras

Department of Gynecology,
University of Medicine
and Pharmacy
"Victor Babes", Timisoara
(Romania)

Correspondence:
L. Pirtea
e-mail: laurentiupirtea@gmail.com

Abstract

The use of synthetic mesh in the treatment of urinary stress incontinence represents a modern approach, but specific complication can occur. A case of urinary incontinence, manifested when patient changed position from supine to standing, is presented. The symptoms appeared after a previous intravaginal sling insertion, with transobturator passage, for urinary stress incontinence. The tape got hooked in the pubococcygeus muscles, and their contraction stretched opens the urethra. The patient presented urine loss, on getting off a chair or out of bed, similar to "tethered vagina" syndrome after prior anterior vaginal repair. Urodynamic and ultrasound exams were used in order to make the differential diagnosis with internal urethral sphincter deficiency, and tape sliding under the urinary bladder neck. The surgical cure was resection of the tape and reinsertion of a retropubic tape. The result was very promising, without notice the urine loss when getting up. We found only one description in literature of the "tethered vagina" case after transobturator tape insertion.

Keywords: urinary incontinence, intravaginal sling

Introduction

Urinary stress incontinence is a very common pathology among women who has history of vaginal deliveries⁽¹⁾. Many surgical techniques aiming to cure this condition were indicated by different authors. The introduction of synthetic materials like polypropylene intravaginal slings was a big step forward^(1,2), but the use of this new approach shows the spectrum of new possible complications.

A strictly iatrogenic type of urinary incontinence, consecutive to previous vaginal repair, is the "tethered vagina" syndrome described by Petros and Ulmsteen. It is determined by the lack of elasticity of the vaginal tissue in the area of the bladder neck. The lack of elasticity is consecutive to vaginal surgery that removes large amounts of vaginal tissue. The cardinal symptom is uncontrolled urine leakage, when the patient changes her position from supine to standing^(1,2,3). The same symptoms may occur when a suburethral sling is no longer tension free, but hanging from the posterior wall of the urethra. Both ends of the tape are passed through muscular planes on their way out to the skin. Having the middle portion of the tape hooked in the pubococcygeus fibers

could mean that, during specific movements, when those muscle are contracting, the urethra is involuntarily opened and urinary incontinence may occur⁽¹⁾.

A similar case is reported by Petros⁽¹⁾, but the wide use of intravaginal slings may lead to more such cases.

Case report

The case of 51 years old patient, with urinary incontinence after transobturator intravaginal sling insertion is presented.

The patient presented the next history: two vaginal deliveries and laparoscopic total hysterectomy (for abdominal bleeding). The patient had a body mass index of 25 (normal weight), and no chronic disease associated.

He presented to our clinic at 6 months after hysterectomy, accusing loss of urine during effort and coughing. No signs of urinary tract infections were found, normal urinalysis, sterile urine culture. The clinical examination revealed excess of laxity at the level of poubourethral ligaments, the pads test was positive, and the positive "simulated operation" described by Ulmsteen (a clamp applied unilaterally at mid-urethra, which

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Figure 1. Scar tissue under mid-urethral area

mimics the effect of a sling, stops the urine loss during effort) suggested the diagnosis of urinary stress incontinence. Transperineal ultrasonography was performed and the urethral hypermobility was noticed. Urodynamic investigation was also performed and the Valsalva leak-point pressure was found to be more than 90 cm H₂O, hence the intrinsic urethral sphincter deficiency was excluded⁽⁴⁾. The diagnosis of stress urinary incontinence due to mid-urethral hypermobility was set. A transobturator intravaginal tension free polypropylene sling was inserted.

The postoperative evolution was good. The urine loss on cough disappeared; the patient was completely dry for 4 months after the sling repair.

After 4 months the patient described uncontrolled urine leakage when getting out of bed or standing up of a chair. He reported that was not able to actually feel that she was leaking urine, just feel a wet symptom. The amount of urine lost was not more than 150-200 gm daily (daily pads count).

The pad test was positive when the patient changed the position from supine to standing. The urodynamic test showed no sign of intrinsic urethral sphincter deficiency (Valsalva

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leak-point pressure more than 90 cm H₂O), or detrusor hyperactivity, again.

The patient was asked to fill in the urinary diary. No frequency, urgency or nocturia were noticed. No urinary infection signs (sterile urine culture) were observed.

On the speculum examination, a scar tissue area could be noticed on the anterior vaginal wall, in the mid-urethral area (Figure 1). The urinary bladder was filled with dye blue and the possibility of a fistula was excluded. The right arm of the tape could be palpated as a tight cord, stretching from the urethra to the ischial bone, hooked in the pubococcygeus muscle. When grasping the right arm of the tape with a forceps, and pulling it towards the ischial bone, loss of urine on coughing was noticed.

Using perineal ultrasound, the position of the tape was found lying correctly, in the middle third of the urethra, but we noticed a backwards movement of the urethra and tape when straining.

Our decision was to cut and remove the tape. After the removal of the tape, the bladder was filled with 250 ml of saline solution and the cough test was repeated: patient became incontinent again. A retropubic tension free tape was inserted and the cough test was repeated: no more urine loss was noticed.

The postoperative evolution was good, urinary catheter was removed at 24 hours and patient was discharged at 36 hours.

The pad test, when changing position from supine to standing, was repeated 3 months after surgery and no urine loss was observed.

The patient remained dry at 12 months after surgery.

No medication for overactive bladder was recommended.

Discussion

The same symptoms could be determined by a slide of the tape from middle third urethra to bladder neck area⁽¹⁾. In our case the position of the tape in the middle third of the urethra was correct, and it was assessed by perineal ultrasound exam.

Another explanation could be an internal urethral sphincter deficiency^(1,2), still the urodynamic test were all within normal parameters.

By pulling with a forceps the tape against the ischial bone, we tried to simulate what might be happening when the pelvic floor muscles contracts during standing up. The attachment of the vaginal sling to the pubococcygeus muscles could lead to formation of fibrotic tissue stretching from the muscles

to the posterior wall of the urethra. Thus the urethra could be stretched open, when the muscle contracted.

The classic “tethered vagina” syndrome is determined by vicious scar tissue in the so called “zone of critical elasticity”. We consider this situation to have the same trigger: a retracted scar tissue created by iatrogenic means. Although in our case the scar was not under the bladder neck, it still created a fibrous connection between the urethra and pubococcygeus muscle, and forced the urethra to open when the muscles contracted. This was a strictly mechanical condition, no detrusor hyperactivity was involved.

The removal of the transobturator tape cuts the connection between the posterior of the urethra and pubococcygeus muscle, and the opening of the urethra during straining was prevented.

The insertion of a new transobturator tape raised the risk of having the same complication. A new path for the tape was our choice.

The retropubic sling had a good result in our situation.

Only one similar case report was found in literature⁽¹⁾, but since the use of the transobturator tape insertion to cure stress incontinence has gained ground lately, more such cases could be diagnosed.

Conclusion

We present a rare case (the second in the literature). The attachment of the transobturator tape to the pubococcygeus muscles stretches the posterior wall of the urethra, and generates the classical symptoms of “tethered vagina” syndrome.

Due to the increased use of the transobturator slings, for the treatment of urinary stress incontinence, this type of complication could be encountered more frequently in the near future; and thus important to be recognized by the urogynecologist. ■

References

1. Petros PE, The female pelvic floor Function, Dysfunction and Management According to the Integral Theory 3rd edition 2010: 180- 190.
2. Petros PE, Ulmsten U, The tethered vagina syndrome, post surgical incontinence and l-plasty operation for cure. Act Obstet Gynecol Scand 1990; 69: 63-67; Suppl 153
3. Petros PE, The Integral Theory System: A simplified clinical approach with illustrative case histories Pelviperineology 2010; 29: 37-51
4. Bump RC, Coates KW, Cundiff GW, Harris RL, Weidner AC. Diagnosing intrinsic sphincteric deficiency: comparing urethral closure pressure, urethral axis, and Valsalva leak point pressures. Am J Obstet Gynecol. Aug 1997;177(2):303-10.