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SKILL AND TALENT

Outcomes of transurethral resection (TUR) of intravesical mesh after suburethral slings in the treatment of urinary stress incontinence☆

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KEYWORDS
Mesh complications;
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Abstract
Objective: The objective of this study was to determine the efficacy as well as the complications associated with transurethral removal (TUR) of intravesical mesh, after suburethral sling, transobturator tape-TOT (Monarc™) or ''minisling'' (MiniArc®), in the treatment of female urinary stress incontinence (USI).
Materials and methods: A retrospective and consecutive study on 9 women with bladder perforation after midurethral slings (3 Monarc™ and 6 MiniArc®) placement for urinary stress incontinence. To remove the mesh, transurethral resection with an electrode loop (TUR-E) was used. The technique included location and total removal of mesh up to healthy tissue with bipolar resectoscope.
Results: The median age was 61 years (49–70 years). The median time between midurethral sling placement and onset of the symptoms was 13 months (1–79 months) and between sling placement and mesh removal it was 16 months (1–91 months). Five women (55.5%) developed bladder stones. Mean operating time was 29.4 ± 10.4 min and mean length of hospital stay was 2.6 ± 0.5 days. The median follow-up after mesh removal was 38 months (range, 14–109 months). No complications were found.
Conclusions: The use of transurethral resection of intravesical mesh after suburethral slings is easy and the results obtained by our surgical team are excellent.

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PALABRAS CLAVE
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Resultados de la resección transuretral (RTU) de malla intravesical tras tratamiento con cintillas suburetrales para la incontinencia urinaria de esfuerzo

Resumen

Objetivo: El objetivo de este estudio fue determinar la eficacia y las complicaciones asociadas con la resección transuretral (RTU) de malla intravesical después de la cirugía con TOT (Monarc™) o «minisling» (MiniArc®) para tratar la incontinencia urinaria de esfuerzo femenina (IUE).

Material y métodos: Estudio retrospectivo de 9 mujeres consecutivas, todas ellas con perforación intravesical de cintilla suburetral: 3 en pacientes tratadas con cabestrillo transobturador, Monarc™ y 6 en pacientes con «minisling», MiniArc®. Todas las pacientes fueron tratadas con RTU con asa con energía bipolar. La técnica incluye la identificación de la malla intravesical, la eliminación completa con el resector de energía bipolar hasta que no era visible más malla y se alcanzó el tejido sano perivesical.

Resultados: La edad media de nuestras pacientes fue de 61 años. El tiempo medio de aparición de síntomas tras la cirugía por IUE fue 13 meses (1-79) y el tiempo medio hasta la RTU de 16 meses (1-91). Cinco mujeres (55,5%), desarrollaron litiasis vesicales.

El tiempo de operación promedio fue de 29,4 ± 10,4 min y la estancia media hospitalaria fue de 2,6 ± 0,5 días. La mediana de seguimiento fue de 38 meses (rango: 14-109 meses) después de la eliminación de malla. No se encontraron complicaciones.

Conclusión: El uso de la resección transuretral para tratar las perforaciones vesicales tras cirugía vaginal con malla es fácil de realizar y en nuestro grupo tiene excelentes resultados.

Introduction

The suburethral bands without tension, both retropubic and transobturator, represent the surgical treatment for stress urinary incontinence and have gained popularity to become the gold standard[1] because of its ease of use, minimal invasiveness, and high success rate. However, these techniques can have complications. Identifying and properly treating complications remain critical for our daily work. Diagnosing the onset of the mesh into the bladder or urethra after placing a suburethral band occurs for between 1% and 6% of the patients, and it can result from inadvertent intraoperative needle penetration or late erosion of the mesh.[2] Even though the transobturator device (TOT) has less risk of injury to the lower urinary tract, surgeons must insert the needles carefully to avoid this complication. The advantages of ''minisling'' over anterior meshes are the anchoring, position, and shortest insertion path in order to reduce complications such as bladder perforation, vascular lesions, and perineal fasciitis, but this technique is not free from complications.[3]

The bladder lesions identified during placement of the sling are usually not related to long-term sequelae.[4] However, when the injury goes unnoticed or late mesh erosion occurs in the bladder or urethra, patients may experience dysuria, recurrent urinary tract infections, irritative or obstructive symptoms, bladder stones, and hematuria.

The guidelines of the European Association of Urology (EAU) on iatrogenic trauma recommend cystoscopy after surgery with suburethral band retropubically. However, routine cystoscopy after using the transobturator pathway or transvaginal approach is controversial, because bladder lesions are much less frequent; it is considered recommended but not obligatory.[5] For the treatment of intraoperative perforations or late erosion, resection by open or endoscopic cystostomy is recommended. The choice depends on the level of experience of the surgeon and the location of the mesh. For other types of foreign bodies, extraction is performed using cystoscopy, and if not cystostomy.[5]

The aim of this study is to determine the efficacy and complications associated with transurethral resection (TUR) of intravesical mesh after surgery with TOT (Monarc™) or ''minisling'' (MiniArc®) to treat female stress urinary incontinence (SUI).

Materials and methods

In this retrospective study, we observed the results and complications found in 9 women who were diagnosed with bladder erosion by mesh after undergoing surgery for correction of urinary incontinence by means of TOT (Monarc™) (American Medical Systems, Minnetonka, Minnesota, U.S.A.) or ''minisling'' (MiniArc®) (American Medical Systems, Minnetonka, Minnesota, U.S.A.) between July 2005 and April 2013. In this period, 502 women operated in our hospital for stress urinary incontinence were evaluated; in 293 women the Monarc™ device was placed, and in 209 we used the MiniArc®. The study was conducted in the Pelvic Floor Unit of Urogynecology of the University Hospital Río Hortega of Valladolid, Spain.

Of the total 9 women identified with intravesical mesh erosion, in 3 we had previously placed a Monarc™ and in 6 a MiniArc®. All patients were treated with TUR with a loop with bipolar energy.