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SKILL AND TALENT

Laparoscopic implantation of artificial urinary sphincter: An option for treating recurrent female urinary incontinence☆

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KEYWORDS
Recurrent urinary incontinence;
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Abstract

Introduction: The failure rate for anti-incontinence surgery ranges from 5% to 80%. There is not actual consensus on the use of artificial urinary sphincter (AUS) as treatment for recurrent urinary incontinence in women. Several authors have shown that AUS can be useful, if the intrinsic sphincteric deficiency is checked.

We present the first case in Spain, to our knowledge, of laparoscopic implantation of AUS as treatment for female recurrent urinary incontinence.

Material and methods: Under general anesthesia, patient was placed in supine decubitus with slight Trendelenburg, access to the vagina was verified. Through a transperitoneal pelvic laparoscopic approach, Retzius space was opened and then the laterovaginal spaces up to the endopelvic fascia. To facilitate the dissection of the bladder neck, we inserted a swab into the vagina, performing simultaneous traction and countertraction maneuvers. As an access port for the AUS, we widened the incision of the lower trocar. We adjusted the periurethral cuff and then placed the reservoir and the pump in the laterovesical space and the labia majora of the vulva, respectively. Lastly, we connected the 3 AUS elements and peritoneum was closed to isolate AUS from the intestine.

Results: The surgical time was 92 min, the estimated blood loss was <100 cc^3 and the hospital stay was 48 h. There were no intraoperative or postoperative complications. The AUS was activated at 6 weeks. At 24 months, patient managed the AUS adequately and total continence was achieved.

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Conclusions: Laparoscopic implantation of AUS is a feasible technique. Transvaginal traction and countertraction maneuvers can prevent intraoperative lesions.

PALABRAS CLAVE
Incontinencia urinaria recidivada;
Esfínter urinario artificial;
Laparoscopia

Implantación laparoscópica de esfínter urinario artificial: una opción en el tratamiento de la incontinencia urinaria femenina recidivada

Resumen

Introducción: El fallo de la cirugía anti-incontinencia oscila entre el 5–80%. En la actualidad no existe consenso sobre el uso del esfínter urinario artificial (EUA) como tratamiento de la incontinencia urinaria recidivada en la mujer. Varios autores han demostrado que el EUA es útil si se comprueba la deficiencia intrínseca del esfínter.

Presentamos, a nuestro entender, el primer caso descrito en España sobre la implantación laparoscópica de un EUA como tratamiento de la incontinencia urinaria recidivada femenina.

Material y métodos: Bajo anestesia general se colocó a la paciente en decúbito supino con ligero Trendelenburg y se comprobó el acceso a la vagina. Mediante un abordaje laparoscópico pélvico transperitoneal se desarrolló el espacio de Retzius y seguidamente los espacios laterovaginales hasta la fascia endopélvica. Para facilitar la disección del cuello vesical se introdujo una torunda en la vagina, realizando maniobras simultáneas de tracción y contratracción. Como puerta de entrada para el EUA se amplió la incisión del trocar inferior. Se ajustó el manguito periuretral y seguidamente se colocan: el reservorio y la bomba en el espacio latero-vesical y el labio mayor de la vulva respectivamente. Finalmente, se conectaron los 3 elementos del EUA y se cerró el peritoneo para aislarlo del intestino.

Resultados: Tiempo operatorio: 92 min. Pérdida hemática estimada < 100 cc^3. Estancia hospitalaria: 48 h. No ocurrieron complicaciones intra ni postoperatorias. El EUA se activó a las 6 semanas. A los 24 meses la paciente lo manipula adecuadamente y alcanzó continencia total.

Conclusiones: La implantación laparoscópica del EUA es una técnica factible. Las maniobras transvaginales de tracción y contratracción pueden evitar lesiones intraoperatorias.

Introduction

According to the International Continence Society, urinary incontinence (UI) is defined as ''the perception of involuntary loss of urine that generates a hygienic and social problem.'' The stress UI (SUI) is an important health problem which in our country affects 9.9–23% of women over 18.[1]

SUI is the most common subtype of incontinence and is defined as the perception of urine leakage with effort, observing no changes in the detrusor pressure during filling cystometry. In most cases, it is due to insufficient support of the bladder neck that conditions urethral hypermobility and, in a minority, to intrinsic urinary sphincter deficiency (ISD). Sometimes both pathophysiologic mechanisms occur simultaneously.

The initial treatment of the SUI consists in lifestyle changes, pelvic floor rehabilitation and medication. If these fail, surgical treatments are considered.

Recurrent urinary incontinence (RUI)

The failure of anti-incontinence surgery ranges from 5% to 80%.[2] This variability is explained by the multiple definitions proposed (presence of any urinary leakage regardless of volume or only urinary leakages with impaired quality of life). The pathophysiological mechanisms of these failures are unknown at present.

Multiple techniques have been described to treat RUI (transobturator tape [TOT], bladder neck sling, TVT, spiral tapes, mini-tapes, colposuspension, adjustable tapes and the adjustable continent therapy [ACT™]). There is currently no consensus on the superiority of one technique over others.[2]

In what there does seem to be consensus is that most of these techniques have their effectiveness diminished when applied as second-line treatments.[2]

Role of artificial urinary sphincter in the treatment of recurrent urinary incontinence

The artificial urinary sphincter (AUS) was initially described by Foley in 1947 and first used by Petero and Diokno in 1972 (American Medical Systems [AMS-721]). In 1983, the AMS 800 was introduced, which has undergone several modifications to the present.

The AUS has been used as a treatment for UI, but there is currently no consensus on its indication as treatment of female recurrent UI (RUI), and the literature on this topic is limited. However, some authors have shown that it is