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VIDEOABSTRACT

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Video can be found at http://www.ceju.online/journal/10000/artificial-urinary-sphincter-stress-urinary-incontinence-1839.php

Step by step illustrative video of laparoscopic artificial urinary sphincter implantation in a woman with recurrent stress urinary incontinence

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Stress urinary incontinence (SUI) is the most common subtype of incontinence and is defined as the perception of urine loss with effort. In most cases, it is due to insufficient support of the bladder neck, urethral hypermobility, and in a minority of cases, intrinsic sphincter deficiency (ISD). Sometimes both pathophysiological mechanisms occur simultaneously. The initial treatment of SUI consists of lifestyle changes, pelvic floor rehabilitation and medication. If medical failure occurs, surgical treatments for urinary incontinence are considered.

Surgical correction of stress urinary incontinence has a failure rate ranging from 5% to 80%. Many procedures have been described to treat stress urinary incontinence, however, there is currently no consensus on the superiority of any technique. What seems to be agreed upon is that most of these techniques have their efficacy diminished when applied secondary to another surgical treatment, and there is still no unanimity for its indication as a treatment for recurrent female urinary incontinence (UI). While the artificial urinary sphincter (AUS) has become the gold standard for the treatment of male sphincter deficiency, the experience of artificial urinary sphincter implantation in women continues to be limited. However, some authors have shown that it is useful when intrinsic sphincter deficiency is present, with or without urethral hypermobility, with reported cases presenting excellent long-term continence rates.

In this illustrative video, the ten surgical steps of a laparoscopic artificial urinary sphincter implantation are described. In this case, a 55 year-old woman had undergone two previous surgical procedures for UI without success.

Step 1. Pre-vesical space or extra-peritoneal approach and placement of the trocars.

Step 2. Isolation of the proximal urethra.

Step 3. Bilateral peri-urethral space dissection.

Step 4. Urethral and vaginal integrity confirmation with diluted methylene blue injection.

Step 5. Measurement of the urethral circumference and placement of the cuff.

Step 6. Placement of the reservoir balloon in pre-vesical location.

Step 7. Sub-dermal space approach.

Step 8. Placement of the pump.

Step 9. Adjustment of the whole system in a closed circuit and filling with saline solution.

Step 10. Confirmation of proper system functioning and subsequent sphincter deactivation.

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The laparoscopic approach of artificial urinary sphincter implantation appears to provide a better image thus facilitating dissection, especially in the area of the bladder where it is technically demanding, and in women who have undergone previous pelvic surgery. Laparoscopic artificial urinary sphincter implantation in women appears to be a good alternative to the classic surgical technique and an excellent option in complicated and refractory cases of urinary incontinence.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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