

## Transvaginal Ultrasonographic Findings in a Case of Uterine Suspension Using the Anterior Type Transobturator Mesh System

Jenn-Ming Yang, M.D.<sup>1,2</sup>, Shwu-Huey Yang, Ph.D.<sup>3</sup>, Wen-Chen Huang, M.D.<sup>2,4,5</sup>

Division of Urogynecology, Department of Obstetrics and Gynecology<sup>1</sup>, Mackay Memorial Hospital, Taipei, Taiwan; School of Medicine<sup>2</sup>, Health and Nutrition<sup>3</sup>, Taipei Medical University, Taipei, Taiwan; Department of Obstetrics and Gynecology<sup>4</sup>, Cathay General Hospital, Taipei, Taiwan; School of Medicine<sup>5</sup>, Fu Jen Catholic University, Taipei, Taiwan; E-mail: huangwc0413@hotmail.com

### BRIEF HISTORY

This 41-year-old woman, gravida 4, para 2, was referred to our urogynecology clinic for a second opinion about her previous reconstructive pelvic surgery. She had suffered from a protruding vaginal mass for 3 years. Six months previously, she had undergone transvaginal uterine suspension using the anterior type transobturator mesh system. Postoperatively, there was no symptom of stress urinary incontinence or voiding difficulty. Although the lump had shrunk inward to the vagina, she still felt something wrong in the vagina during the recent 2 months.

### CLINICAL EXAMINATION

On pelvic examination, site-specific analysis demonstrated a stage II uterine prolapse and stage I cystourethrocele (International Continence Society ordinal stage). The positions for the points Aa, Ba, and C were -1.5 cm, -2 cm, and -1 cm, respectively, on the POP-Q system.

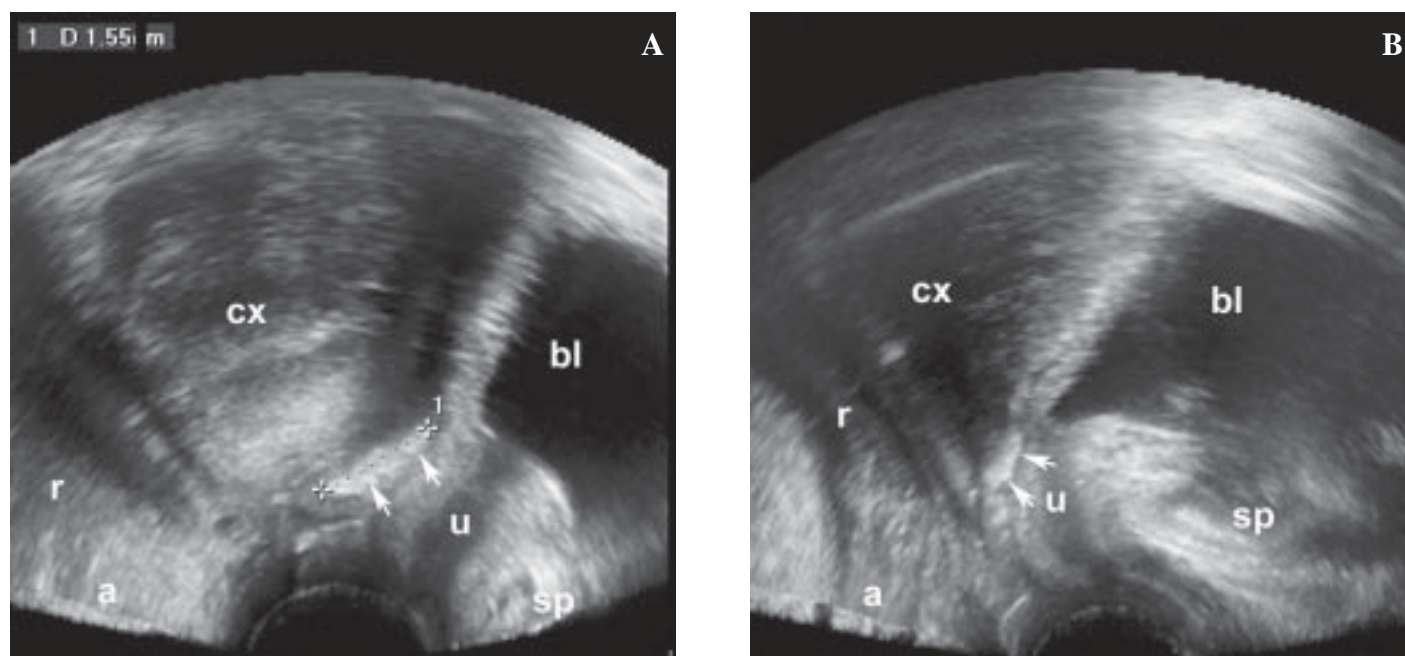
Indurated cord-like structures with extension directed to the bilateral pubic rami were palpable beneath the anterior vaginal wall.

### ULTRASONOGRAPHY

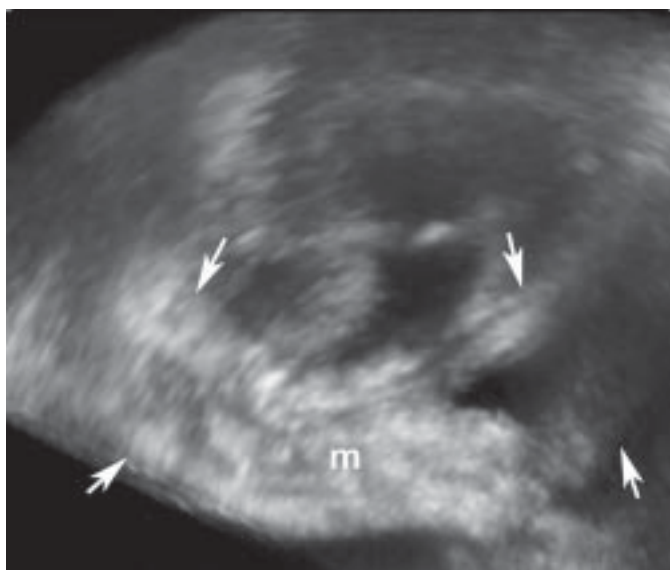
Resting mid-sagittal view demonstrated a flat hyperechoic mesh with the length of 1.55 cm was interposed between the cervix and proximal urethra (Fig. 1A). On Valsalva, the mesh moved together with the proximal urethra and was shortened in length (Fig. 1B). Urethral hypermobility was noted with the resting and straining pubourethral angles of 41 degrees and 136 degrees, respectively. The anchoring four arms of the mesh were clearly demonstrated on the three-dimensional coronal view (Fig. 2).

### COMMENTS

Although hysterectomy remains the consistent management for severe uterine prolapse, uterine preserving treatment with the aid of



**Fig. 1.** Three-dimensional mid-sagittal view at rest (A) and during stress (B) showing a flat hyperechoic mesh (arrows) interposed between the cervix (cx) and proximal urethra. On Valsalva, the mesh is following the motion of proximal urethra. The mesh is 1.55 cm in length at rest and becomes shortened when stressed (bl: bladder; u: urethra; sp: pubic symphysis; a: anal canal; r: rectum).



**Fig. 2.** Three-dimensional coronal view showing a hyperechoic flat mesh (m) with 4 anchoring arms (arrows).

polypropylene mesh has been successfully tried via the vaginal, abdominal or laparoscopic route. Currently, the techniques of pelvic prolapse repair using polypropylene mesh worldwide prevail, including tension-free anterior repair, transobturator anterior repair and/or posterior repair, and abdominal sacrocolpopexy for vault prolapse. Apogee or posterior part of Prolift has been suggested for the suspension of the vaginal vault or uterus via the anchoring arms passing through the arcus tendineus fascia pelvis near the ischial spine or sacrospinuous ligament, respectively.

This case demonstrates the insufficiency of uterine support using the anterior type transobturator mesh system. To date, a new technique using the prosthesis has been introduced as a promising alternative solution. The prosthesis creates a support for the cystocele, the cervix and the enterocele. It has four anchoring sites: two at the rear in the sacrospinuous ligaments and two at the front in the arcus tendineous of the levator ani muscle. The reported success rate was of 79.1% (19/24) [1]. In this case, the cranial end of the mesh seemed to be fixed to the cervix. However, the anterior type mesh system was not designed for uterine suspension. Shortening of the implanted mesh due to the dragging effect of the uterine descent together with subsequent biological fibrosis [2] may be hazardous to the supportive function of the mesh. Thus, the advantages of simultaneous corrections of different defects in the anterior vaginal compartment using the anterior type transobturator mesh system may be lost. In addition, cystocele may recur at the unsupported sites.

## ACKNOWLEDGEMENTS

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編著者：郭漢崇

花蓮慈濟醫學中心泌尿科團隊在 1988 年起，由當時任職台大醫院泌尿科郭漢崇醫師擔任主任，近二十年來陸續邀集國內泌尿科具專長之醫師，共同打造一個兼診斷、治療與研究能力的泌尿科團隊。《泌尿學》便是由花蓮慈濟醫學中心泌尿科團隊，全體通力合作所完成的醫療鉅著。相信不只對於泌尿科醫師、醫學生，甚至對於護理人員，都深具參考價值。

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