

Ureteral Stenosis After Uterine Suspension Using TVM (Transvaginal Mesh)

Yue-Lin Fang¹, Hun-Shan Pan^{*2,3}, Ma-Lee Ko⁵, Yan-Fong Lu², Kenneth Pan⁴, Cristiana Pan⁴, Jier -Zen Chang² and Lee-wen Huang^{2,3}

Institutional affiliations

¹Division of General Surgery, Department of Surgery, Shin Kong Wu Ho Su Memorial Hospital, Taipei, Taiwan (R.O.C.)

²Department of Obstetrics and gynecology, Shin Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan (R.O.C.)

³Department of Science, Fu Jen Catholic University, New Taipei, Taiwan (R.O.C.)

⁴Department of Science, University of British Columbia, Canada

⁵Ranchlands medical center, Calgary Alberta, Canada

Corresponding author

Hun-Shan Pan,

Department of Obstetrics and gynecology,

Shin Kong Wu Ho-Su Memorial Hospital,

111 Shilin, Taipei, ROC.

Tel: +886-2-28332211,

E-mail: erickmichael2002@gmail.com

Received Date: May 29, 2020

Accepted Date: Jun 02, 2020

Published Date: Jun 29, 2020

1. Background

Pelvic Organ Prolapse (POP) is a disabling and chronic condition that affects a rough 20% of women ranging in all ages [1]. Pelvic organs can protrude outside the body through the vagina due to weakness in the pelvic floor. POP affects patients both physically and psychologically. Most women with POP suffer from at least one other pelvic floor disorder, such as incontinence. Pelvic Organ Prolapse increasing nationwide, namely, anterior, posterior and middle compartments prolapse. Plenty of different kits have been created in recent years for reconstruction surgery. And among those surgical kits, synthetic material augmentation plays a major role; hence it also takes place certain complications such as dyspareunia and vaginal discomfort [2]. We are now reporting a rare case of ureteral stenosis after sacrospinous suspension. This case report has already received approval from SKH Ethics Committee.

2. Case Report

A 64-year-old menopausal female, G2P2, complained of heavy sensation and feeling of sitting on a ball especially during the afternoon. Tracing back her previous operation history, she had undergone a cesarean and a subtotal hysterectomy due to myoma with severe adhesion. Pelvic exam revealed total prolapse of vaginal cervix with cystocele of stage III, and we further performed urodynamic study which revealed bladder outlet obstruction and pad test was 13 gm after restoring the vaginal cervix. After explaining the risk and complications of surgery in detail, we performed POP surgery which included sacrospinous suspension (Upholds), mid-urethral sling surgery (Solyx) and anterior compartment repair. Ten days after operation, she came back due to left costovertebral angle pain and knocking tenderness. CT showed hydronephrosis without urolithiasis (Figure 1), and antegrade pyelography also showed ureteral stenosis at lower third (Figure 2). After multiple stent insertion failure, urologist suggested a re-implantation of ureter. Post operation course was uneventful. Intravenous pyelography was performed 4 months after reimplemented surgery showed left ureter patent (Figure 3).

3. Conclusion

Surgical mesh can be used for urogynecologic procedures, including repair of Pelvic Organ Prolapse (POP) and Stress Urinary Incontinence (SUI). It is permanently implanted to reinforce the weakened vaginal wall for POP repair or to support the midurethra for the repair of SUI [3]. There are three main surgical procedures performed to treat pelvic floor disorders with surgical mesh namely:

1. Transvaginal mesh to treat POP;
2. Transabdominal mesh to treat POP;
3. Midurethra mesh sling to treat SUI.

The most frequent complications included erosion through vaginal epithelium, infection, pain, urinary problems, and recurrence of prolapse and/or incontinence [4]. There were also reports of bowel, bladder, and blood vessel perforation during insertion [5]. In some cases, vaginal scarring and mesh erosion led to a significant decrease in patient's quality of life due to discomfort and pain, including dyspareunia [6]. The FDA is aware of allegations that urogynecologic surgical mesh may contain counterfeit raw material [2]. We are currently not aware that the alleged counterfeit raw material contributes to adverse events associated with these products.

POP surgery will be prominent in the very near future for those patients who have total prolapse of uterus or vault, we suggest inserting the double J before operation in order to prevent ureter kicking subsequent to hydronephrosis. On the other hand, once the operation is completed, try to loosen the tightness of mesh around the hanging area and palpating under cystoscope allows the operators to recheck the flow of urine from bilateral ureter. It is mandatory to inform the patients for the risk of operation.

References

1. Jennifer M Wu, Camille PV, Patricia SG, David TR, Kathryn LB, Holly ER, et al. Prevalence and Trends of Symptomatic Pelvic Floor Disorders in U.S. Women. *Obstet Gynecol.* 2014;123(1):141-8.
2. FDA strengthens requirements for surgical mesh for the transvaginal repair of pelvic organ prolapse to address safety risks. 2016.
3. TS Lo, Alex CW, Ching-Chung L, Cheng-Yu L and Shu-Jane L. Treatment for unsuccessful tension-free vaginal tape operation by shortening pre-implanted tape. *J Urol.* 2006;175(6):2196-9.
4. TH SU, HH Lau, WC Huang, CH Hsieh, RC Chang and CH Su. Single incision mesh repair versus traditional native tissue repair for pelvic organ prolapse: results of a cohort study. *International Urogynecology Journal.* 2014;25(7):901-8.
5. CY Long, TS Lo, CL Wang, CH Wu, CM Liu and JH Su. Risk factors of surgical failure following transvaginal mesh repair for the treatment of pelvic organ prolapse. *Eur J Obstet Gynecol Reprod Biol.* 2012;161(2):224-7.
6. CH Hsieh, CS Hsu, TH Su, ST Chang and MC Lee. Risk factors for urinary incontinence in Taiwanese women aged 60 and over. *Int Urogynecol J Pelvic Floor Dysfunct.* 2007;18(11):1325-9.

Figures

Figure 1ab: Abdominal CT showed left hydronephrosis with fatty stranding at left bladder.



Figure 1a

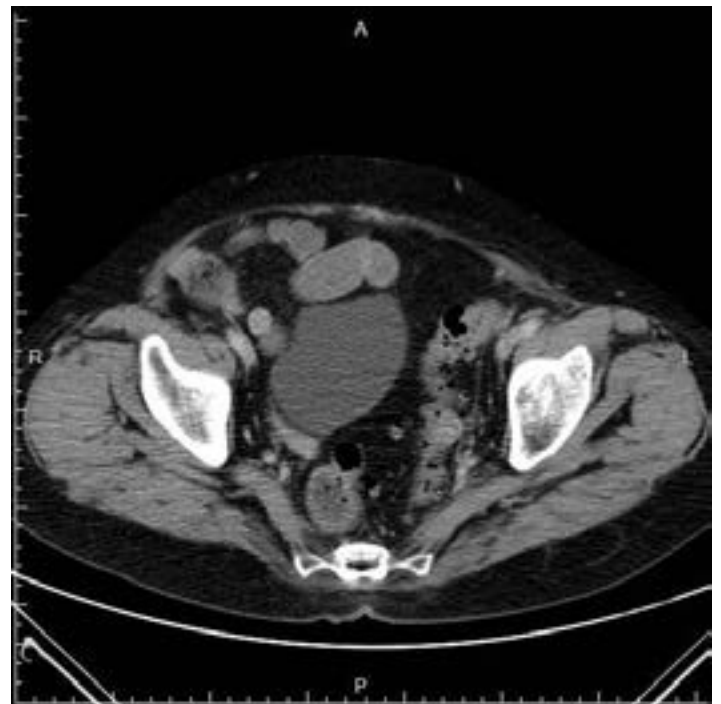


Figure 1b

Figure 2ab: Antegrade pyelography showed severe stenosis of left lower ureter with dilatation of upstream ureter and pelvicalyceal system; guidewire into PCN tube and through the ureter to the stenosis site, the guidewire cannot pass the stenosis site.

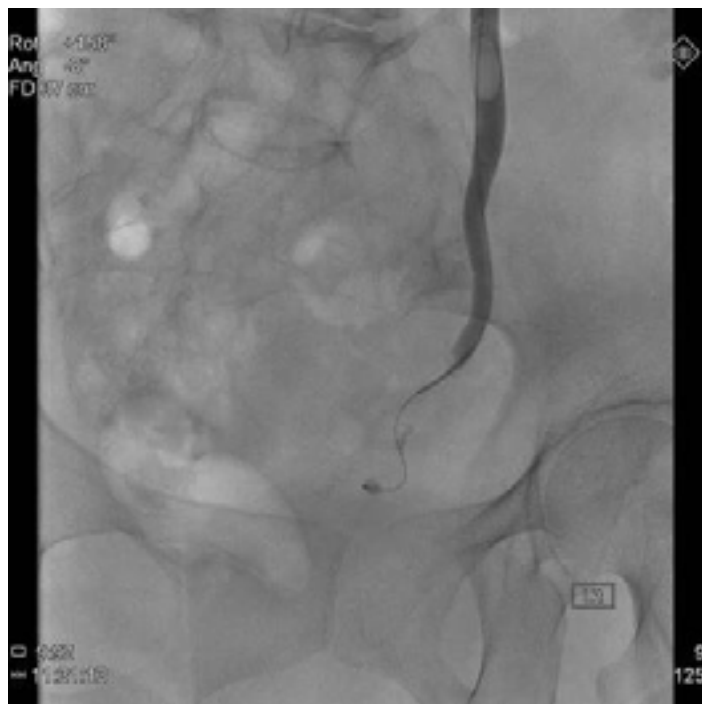


Figure 2a



Figure 2b

Figure 3ab: Intravenous pyelography performed post-operation 4 months; the left ureter was patent.



Figure 3a



Figure 3b