Thai Journal of Obstetrics and Gynaecology
July 2015, Vol. 23, pp. 190-193

CASE REPORT

Recurrent Vaginal Vault Prolapse after Vaginal Hysterectomy with Anterior-posterior Mesh Augmentation

Kreaingsak Sirisakpanich, MD**,***,
Tsia-Shu Lo*,
Pei-Ying Wu*,**.

** Division of Urogynecology, Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Chang Gung University, School of Medicine, Taoyuan, Taiwan, Republic of China*
*** Fellow of the Division of Urogynecology, Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Chang Gung University, School of Medicine, Taoyuan, Taiwan, Republic of China*
**** Department of Obstetrics and Gynecology, Phramongkutklao General Hospital, Bangkok, Thailand*

ABSTRACT

Recurrent pelvic organ prolapse (POP) after transvaginal hysterectomy with mesh interposition and reinforcement has increased due to the widespread use of polypropylene mesh. We report a case of recurrent POP 3 years after a transvaginal mesh repair. A 74-year-old multiparous woman with a body mass index of 29.6 kg/m^2 presented with recurrent symptomatic of POP associated with urinary incontinence following polypropylene mesh augmentation. A thorough examination revealed mesh displacement and enterocele. Surgical correction included repositioning of the anterior and posterior mesh, McCall culdoplasty, unilateral sacrospinous ligament fixation and excision of the exposed mesh. This patient had an excellent short-term outcome; however, long-term follow up is required. In summary, the management of recurrent POP following transvaginal mesh is challenging and should be individualized.

Keywords: Recurrent vaginal vault prolapse, McCall culdoplasty, sacrospinous ligament fixation, transvaginal mesh.

Correspondence to: *Kreaingsak Sirisakpanich, MD., Department of Obstetrics and Gynecology, Phramongkutklao General Hospital, Bangkok, Thailand*
Telephone number: 0-2354-7775 E-mail: doctorlek18@hotmail.com

Main Text

Brief summary

Recurrent POP after transvaginal mesh repair is challenging to manage. Surgical procedures with McCall culdoplasty and sacrospinous fixation have demonstrated an excellent short-term outcome.

Introduction

The incidence of vaginal vault prolapse after vaginal hysterectomy with transvaginal mesh (TVM) augmentation ranged from 4.7 to 29 %[1,2]. In addition up to 16% of recurrent vault prolapse could be accompanied with enterocele according to mid-term

and long-term follow-up[3]. We have also experienced one case with failed TVM repair who presented with recurrent vault prolapse, enterocele and urinary symptoms. The challenging aspect for this case was the surgical difficulty due to altered anatomical planes caused by extensive tissue scarring and fibrosis after the TVM implantation which could lead to increased risk of urinary tract and bowel injuries[2].

Case

A 74-year-old, multiparous woman, menopause for 25 years presented the predominant symptoms of recurrent vaginal vault prolapse after having two previous surgeries for POP. The patient had symptom of anterior vaginal prolapse since 1997 and underwent urinary bladder suspension in 1998. Twelve years later she was diagnosed of having uterine prolapse with cystocele and rectocele which was corrected by transvaginal hysterectomy with anterior (Perigee™) and posterior (Apogee™) mesh augmentation. One year after surgery she developed recurrent of vagina bulge and urinary symptoms including nocturia (4-5 times a night) and frequency (almost every hour). However, there was no vaginal discharge or bleeding. As symptoms deteriorating, the patient decided to come to our clinic for treatment in 2013.

Physical examination revealed an overweight woman with a BMI of 29.6 kg/m^2. Pelvic examination revealed POP quantification system stage IV (Aa +1, Ba +11, C +11, gh 5, Pb 3, TVL 12, Ap +1, Bp +11, D–omitted), and vaginal mucosa mesh exposure measuring 1 cm in diameter at the anterior compartment IUGA/ICS classification: 2AaT4S1 (Fig. 1A). The 1-hr pad test yielded only 0.2 gm of weight change. Urodynamic study revealed a large compliance bladder, detrusor underactivity, and urodynamics stress incontinence (USI). Cystoscopic examination was unremarkable.

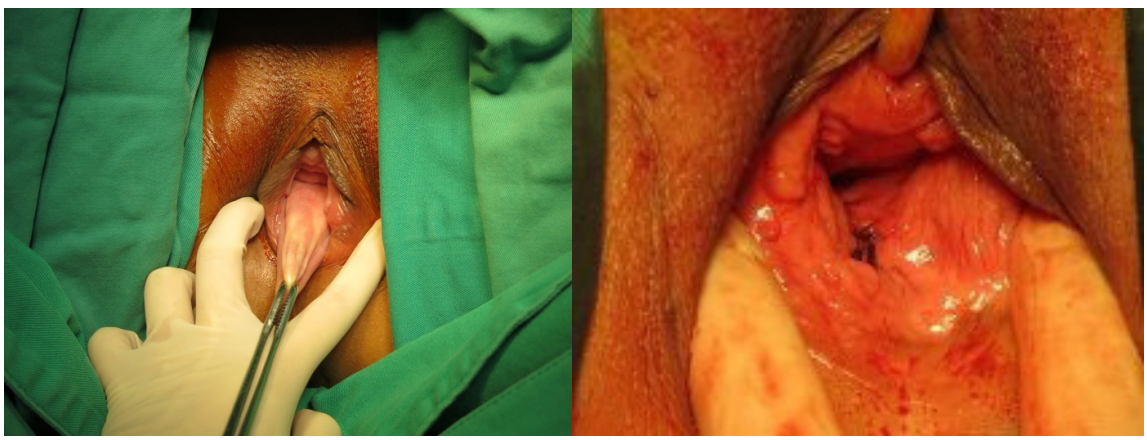

Fig. 1. (A) Before surgery demonstrated pelvic organ prolapse stage IV (left), **(B)** After surgery (right)

Initial conservative management with ring pessary was declined by the patient. She was counseled and underwent the following surgical procedures which were composed of reduction of enterocele, McCall culdoplasty, reattachment of the polypropylene vagina mesh at the apex of vaginal vault and sacrospinous fixation (SSF). A mid line incision was made on the anterior vagina wall. After careful dissection the enterocele sac was identified and opened (Fig. 2). The small bowel was reduced and the sac was closed with a purse string suture. The gap in between the anterior and posterior mesh was obliterated by attaching the mesh together. Further dissection to identify the uterosacral ligament and McCall culdoplasty was done. Right SSF was performed by a posterior approach. A midline incision was made on the posterior

vagina wall after a hydrodissection and the right pararectal space was bluntly dissected to identify sacrospinous ligament complex. A non-absorbable suture (1-polypropylene) was passed into the sacrospinous ligament complex by the aid of Miya Hook ligature carrier and suspended to the apex of vaginal vault. Mesh excision was done at exposed site and vagina mucosa was closed using 2-0 vicryl. Intraoperative cystoscopy was performed and no injuries were found.

The patient was discharged in good condition on postoperative day 4. She came back to our clinic for follow-up after surgery at 2 weeks, 1 month, 3 months and 6 months with no prolapse symptoms, good wound healing and improved urinary symptoms.

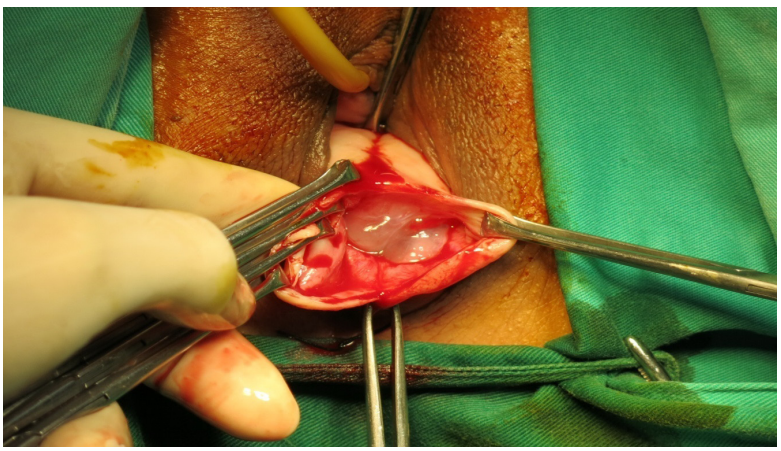

Fig. 2. Enterocele sac was opened

Discussion

The incidence of recurrent vaginal vault prolapse after vaginal hysterectomy with mesh augmentation has gradually increased due to the widespread utilization of transvaginal polypropylene mesh for resolving pelvic organ prolapse. The combination of intrinsic factors present in our patient such as age, overweight, preexisting weakness of pelvic floor, history of surgery for POP, increasing number of prolape segments, shrinkage and displacement of the mesh result from poor surgical technique are possible factors related to the recurrence[2]. The vaginal surgeon is faced with the challenges of a difficult dissection due to altered anatomical planes caused by tissue fibrosis and scarring which can lead to bleeding and urinary tract or anorectal injury[2,4]. In general, treatment consideration for POP include prolapse severity, associated symptoms, risk of complication, patient's preference, patient's health and expected outcome. Despite our initial advice for conservative management, the patient's decision was to carry on the surgery.

An enterocele is a peritoneal containing loops of small bowel or omentum that progressively disrupts the recto-vagina (Denonvilliers) fascia so there is a possible risk of bowel obstruction or incarceration[3]. McCall culdoplasty does not cause alteration of the vaginal axis and provides excellent anatomical and functional support for the posthysterectomy women. In addition, this technique has been proved to be more effective in preventing enterocele than a simple peritoneal suture of the vaginal vault or the Moschcowitz method[3]. For our patient, we performed McCall culdoplasty and reattached anterior and posterior mesh together to obliterate the cul-de-sac, therefore preventing recurrence of enterocele. However, it is more difficult to identify and trace the remnant of uterosacral ligament to its origin to do a high (modified) McCall procedure in recurrent vault prolapse. A disadvantage of this

procedure is that the uterosacral ligament and the ureter may lie in close proximity, hence increases risk of ureteric injury. Thus, it is important to performed intraoperative cystoscopy to demonstrate urine jets from both ureteric orifices which will confirm ureteric patency[3,5].

Sacrospinous fixation (SSF) is a procedure aimed to provide support to vagina vault by suturing vaginal apex to the sacrospinous ligament. The advantages of this technique when compared to an open sacrocolpopexy include less operation period, shorter recovery time and the avoidance of abdominal approach[5]. However, there are possible serious complications, including hemorrhage from pudendal and inferior gluteal vessel injuries, pudendal and sciatic nerve injuries, dyspareunia and rectal trauma[5]. SSF was successfully added to McCall procedure for the purpose of better anatomical outcome.

In conclusion, recurrent vaginal vault prolapse is a difficult and challenging case to manage, especially if it occurs following TVM. However, the choice of treatment should be individualized depending on degree of prolapse, the severity of symptoms, patient's health, sexual function, and surgeon's experience.

Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images

References

1. Schmid C, Rourke PO, Maher C. Laparoscopic sacrocolpopexy for recurrent pelvic organ prolapse after failed transvaginal polypropylene mesh surgery. Int Urogynecol J 2013;24:763-7.
2. Lo TS (2010) One-year outcome of concurrent anterior and posterior transvaginal mesh surgery for treatment of advanced urogenital prolapse: case series. J Minim Invasive Gynecol 2010;17:473-9.
3. Chene G, Tardier AS, Savary D, Krief M, Boda C, Anton-Bousquet Mc, et al. Anatomical and functional results of McCall culdoplasty in the prevention of enteroceles and vaginal vault prolapse after vagina hysterectomy. Int Urogynecol J Pelvic Floor Dysfunct 2008;19:1007-11.
4. Blandon RE, Gebhart JB, Trabuco EC, Clingele CJ. Complication from vaginally placed mesh in pelvic reconstructive surgery. Int Urogynecol J Pelvic Floor Dysfunct 2009;20:523-31.
5. Toh VV, Bogne V, Bako A. Management of recurrent vault prolapse. Int Urogynecol J 2012;23:29-34.