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Laparoscopic posterior colporrhaphy using a unidirectional barbed suture for risk hedging laparoscopic sacrocolpopexy

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Laparoscopic sacrocolpopexy (LSC) is becoming more popular for the treatment of pelvic organ prolapse since the Food and Drug Administration's safety concerns over transvaginal mesh surgery in 2008 and 2011. However, the standard procedure of LSC varies among facilities,[1] and especially the use of posterior mesh remains controversial[2] in contrast to the essential role of the anterior mesh. From the point of safety improvement of LSC, the Posterior mesh, possibly causing severe complications such as rectal mesh expositions,[3] is desirable to avoid if its efficacy of LSC could be changed. Therefore, laparoscopic posterior colporrhaphy with a barbed suture instead of using a posterior mesh has been developed.

We here report the case of a 66-year-old woman, gravida 2 para 2, diagnosed with pelvic organ prolapse grade 3. The preoperative POP-Q showed the point at 3 cm away from genital hiatus on the anterior vaginal wall (Aa), the most descending position between Aa and C on the anterior vaginal wall (Ba), cervix or cuff (C), genital hiatus (Gh), perineal body (pb), total vaginal length (TVL), the point at 3 cm away from genital hiatus on the posterior vaginal wall (Ap), the most descending position between Ap and D on the posterior vaginal wall (Bp), and posterior fornix (D) were +2.5, +3, −2, 4, 3, 6, −2, −2, and −4, independently. For cystocele, LSC with an anterior mesh was performed and laparoscopic posterior colporrhaphy using a unidirectional barbed suture instead of a posterior mesh was performed to repair the rectovaginal fascial defect.

At first, four trocars were placed in a diamond pattern. A stitch on the sacral promontory after the opening of the presacral peritoneum was made to secure the success of LSC, because this step is the most difficult part. Next, a subperitoneal tunnel was made at the right side of the rectum. In this case, subtotal hysterectomy and bilateral salpingo-oophorectomy was also performed. The rectovaginal space was dissected deeper until the bilateral levator ani muscle was visible. The surgeon's left index finger was placed onto the vagina to detect the rectovaginal fascial tear (Figure 1). The transition from the thicker part to the thinner part could be sensed and the rectovaginal fascial tear was found by swiping the finger. Next, a 2-0 polyglyconate barbed suture (V-LOC 180 Absorbable Wound Closure Device; Covidien, Tokyo, Japan) was passed through the perineal body into the right and left rectovaginal fascia, and then the disrupted fascia

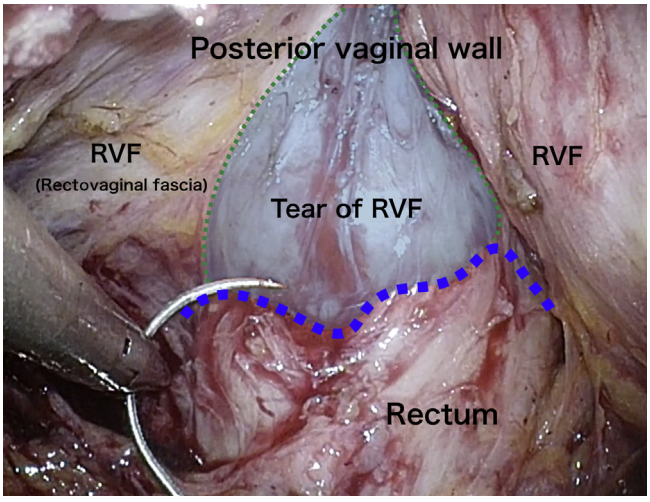

Figure 1. The dissection of the rectovaginal space. The surgeon's left index finger was placed onto the lower posterior vaginal wall (blue area) to clearly visualize the boundary (blue dotted line) between the vagina and rectum. The dissection was made using a pair of forceps and scissor to reach the lowest part of the pelvis. A 2-0 polyglyconate barbed suture was passed through the perineal body into the right and left rectovaginal fascia, and then the disrupted fascia was tied together.

Conflicts of interest: The authors have no conflicts of interest relevant to this article.

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was tied together. As the line for suturing of the upper part of the rectovaginal fascial tear was also identified, the whole area of the rectovaginal fascial tear was completely closed by following the baseball stitch (running suture) technique.

Next, the vesicouterine fossa was opened and dissected until the depth of the transition from the urethra to the bladder where the bottom portion of the anterior mesh was fixed. Next, the middle portion of the mesh was fixed onto the amputated cervix. The top of the anterior mesh was lifted through the tunnel and fixed on the promontory. Finally, the peritonization of the mesh was completed. The surgery was performed successfully with no intraoperative or postoperative complications. Operative time was 248 minutes overall, and blood loss was 1 mL.

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.gmit.2017.02.001.

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