

Perspectives in Urology

Advantages of self-tailored mesh for vaginal prolapse

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The trans-vaginal mesh (TVM) technique provides excellent repair of pelvic organ prolapse (POP). In Japan, commercially available kits with pre-tailored mesh are not available. Therefore, POP repairs with the use of polypropylene mesh self-tailored by the surgeon has been undertaken according to the TVM procedure¹⁻⁴). We repaired vault prolapse associated with bladder herniation (Fig.1A) using self-tailored mesh in a case of pelvic trauma involving symphysis pubis diastasis (Fig.1B) at age 38. This patient had hysterectomy for myoma uteri at age 46. Her vault prolapse was occurred at age 53, and since then had been left untreated during 17 years.

We modified several steps of the usual TVM procedure because of the bladder herniation through the diastased symphysis pubis. Two incisions are performed on the anterior and posterior vaginal wall. The dissection of the anterior vaginal wall is continued between the bladder and pelvic side wall in a blunt or sharp way laterally until the tendinous arch of the pelvic fascia between the pubic symphysis and the ischial spine is identified. Between two vaginal incisions submucosal tunnel of 4cm, in length, is created. To restore the bladder herniation through the diastased symphysis pubis, an inverted U-shape skin incision was made in the pubic area. The bladder hernia was dissected away from the surrounding tissues. The obturator foramen was exposed at the lateral edge of the inverted U-shape incision. Transobturator “outside in” passage of the eyed needle at anteromedial edge of the obturator foramen was tried, but unsuccessful because of diastased symphysis pubis. Therefore, passage of the eyed needle 5 mm medial from the pubic descending limb was made into the paravesical region (Fig.2). Next, passage of the eyed needle at posteromedial edge of the obturator foramen was made towards the 1 cm in front of the ischial spine. These needles carried the threads to secure the anterior arms of the anterior part of the mesh placed at the vesicovaginal dissection space.

Cutaneous incision was made 3cm lateral and 3cm down from the anus, and final passage of the eyed needle was made through the sacrosclatic ligaments towards the ischial spine. These needles carried the threads to secure the posterior arm of the posterior part of the mesh which was passed into the pararectal space through the sacrosclatic ligaments. The mesh with six arms, which consisted of 3 parts, were placed in the anterior, intermediate and posterior parts of the vaginal wall. The

vaginal incisions were closed, and the inverted U shape skin incision was closed over the second patch mesh (4x5 cm) to reinforce bladder hernia.

The vault prolapse was anatomically corrected by the self-tailored mesh and bladder hernia was remarkably decreased in size by the second patch mesh. The advantages of self-tailored mesh provide wider indication for POP repair surgery. The indication for self-tailored mesh surgery includes vaginal prolapse with unable transobturator passage, and previous pelvic surgery by abdominal approach, and previous colporrhaphy by vaginal approach.

References

1)Araki I, Haneda Y, Mikami Y, Takeda M.: Incontinence and detrusor dysfunction associated with pelvic organ prolapse: clinical value of preoperative urodynamic evaluation. *Int Urogynecol J* 20:1301-1306, 2009.

2)Takahashi S, Obinata D, Sakuna T, Nagane Y, Sato K, Mochida J, Ichinose T, Yamaguchi K.: Tension-free vaginal mesh procedure for pelvic organ prolapse: a single-center experience of 310 cases with 1-year follow up. *Int J Urol* 17: 353-358, 2010

3)Kuribayashi M, Kitagawa Y, Narimoto K, Kawaguchi S, Konaka H, Namiki M.S: Postoperative voiding function in patients undergoing tension-free vaginal mesh procedure for pelvic organ prolapse. *Int Urogynecol J* 22: 1299-1303, 2011.

4)Nishizawa O, Ichino M, Ishikawa M, Tanabe T, Suzuki H, Saito T, Imamura T, Ishizuka O: Videourodynamic examination and TVM/TOT surgery. *LUTS* in press.

Figure legend

Fig. 1 A Cystocle and bladder hernia

Fig. 1 B Diastased symphysis pubis

Fig.2 Passage of the eyed needle 5 mm medial from the pubic descending limb

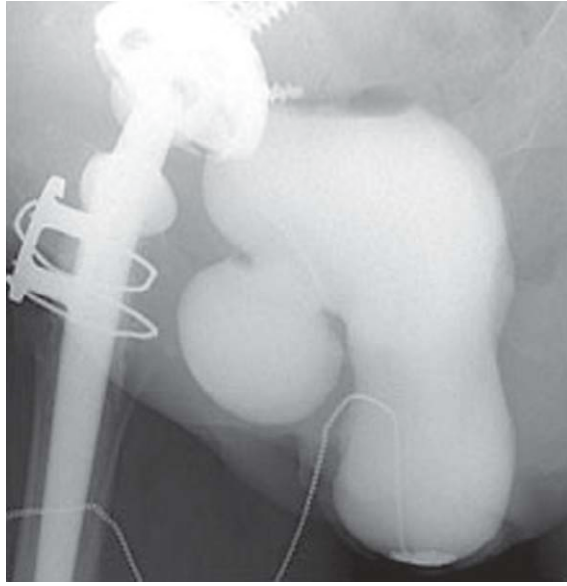


Fig. 1 A Cystocle and bladder hernia



Fig. 1 B Diastased symphysis pubis

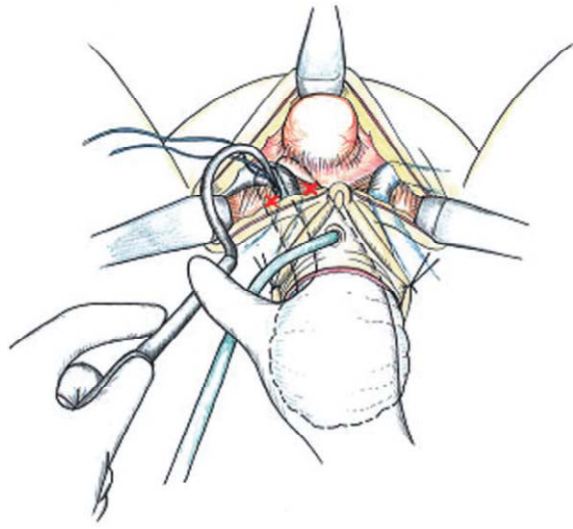


Fig.2