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# FOUR-ARMED TRANSVAGINAL MESH REPAIR IN THE TREATMENT OF ANTERIOR VAGINAL PROLAPSE WITH STRESS URINARY INCONTINENCE

Hypothesis / aims of study

Stress urinary incontinence (SUI) is associated with anterior vaginal prolapse (AVP) in 30% of patients. In our study, we aimed to present our results with 4-armed (2 prepubic and 2 transobturator) one-pieced polypropylene mesh repair in AVP with SUI.

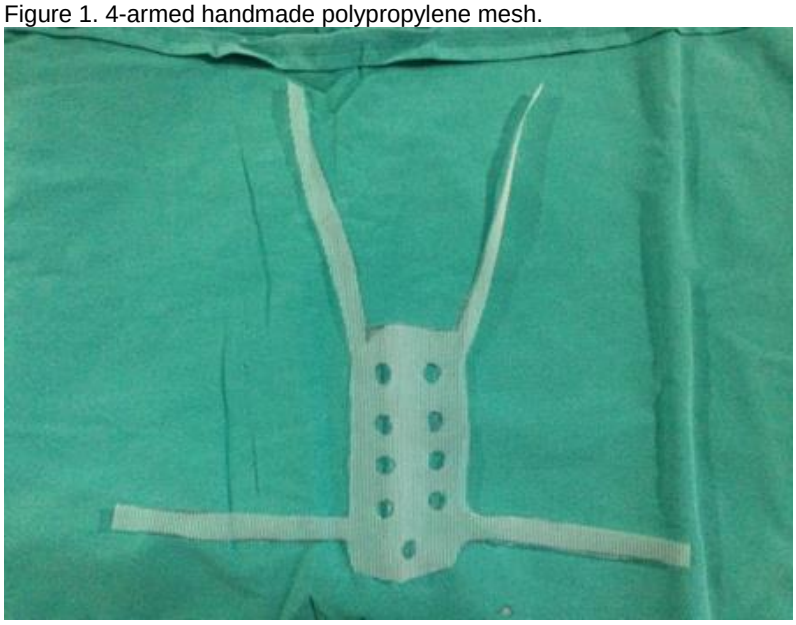
Study design, materials and methods

Between January 2010 and 2013, 49 patients with grade 3 and 4 AVP with SUI were treated with 4-armed transvaginal mesh. Seven patients excluded from the study, because they did not come to follow-up visits. The study was conducted with remaining 42 patients. Anterior vaginal prolapsed was evaluated with pelvic organ prolapse quantification system (POP-Q). SUI was evaluated with bladder stress test, and The International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF). Bladder stress test was performed with a full bladder in the lithotomy position. If the postoperative bladder stress test was negative, these patients were accepted as continent. The patients with postoperative 2 and less POP-Q levels were accepted as surgical success.

Operation technique:

Patients were positioned in dorsal lithotomy position with a 16 Fr Foley catheter. A midline longitudinal was made from 1 cm distal to external meatus until 1 cm to cervicovaginal junction. The dissection was continued laterally. Two suprapubic incision was made 2 centimeters (cm) above the symphysis pubis, and 2 cm lateral to the midline. Figure 1 demonstrates the handmade 4-armed type 1 polypropylene mesh. The length of the mesh was adopted according to AVP. Two prepubic arms of mesh were tied to hooks, and introduced from vaginal incision to suprapubic incision subcutaneously over the symphysis pubis. Then the transobturator needle was introduced from 2 cm laterally from the inguinal fold at the level of clitoris to vaginal incision. The inferior two arms of mesh were tied to these hooks and taken out via transobturator route. The mesh was fixed with 3,0 prolene sutures to the remaining fascia. All of the four arms were tightened since the correction of AVP. Control cystoscopy was performed, and anterior vaginal wall was sutured.

Figure 1. 4-armed handmade polypropylene mesh.



Results

The mean age of patients were 55.9 (41-75). The mean follow-up time was 18.2 (12 – 42) months. The mean body-mass index (BMI) was 26.8 (20.4-38.6) kg/m$^2$. Mean operation time was 48.9 (35-75) minutes. Postoperative continent and incontinent groups were compared with age, preoperative ICIQ-SF scores, BMI, and operation duration. Table 1 summarizes the mean, and p values of these variables. All of the patients were successful by means of AVP. In 7 (16.7%) of patients postoperative bladder stress test was positive, and these patients were accepted as incontinent, the remaining 35 (83.3%) patients were continent. Between these variables, only age was found as statistically significant (p=0.04). The POP-Q values were 4 in three, and 3 in four of incontinent patients. Urethral catheters were removed in postoperative first day in all patients. There were no significant complications in any of the patients.

Table 1. The comparison of variables with continent and incontinent patients.

| | Number of patients | Mean | P value |
|---|---|---|---|
| Age Incontinent<br>Continent | <br>7<br>35 | <br>43.15<br>58.05 | <br>0.04 |
| Preop ICIQ-SF<br>Incontinent<br>Continent | <br>7<br>35 | <br>17.0<br>12.2 | <br>0.474 |
| BMI Incontinent<br>Continent | <br>7<br>35 | 28.6<br>26.5 | <br>0.365 |
| Operation duration<br>Incontinent<br>Continent | <br>7<br>35 | <br>48.3<br>50.7 | <br>0.2 |

Interpretation of results

The study revealed perfect results in anterior vaginal prolapse, and good results in stress urinary incontinence with 4-armed transvaginal polypropylene mesh repair. With the support of randomized controlled trials in the future, this method should be the choice of treatment in SUI with AVP.

Concluding message

One-pieced 4-armed transvaginal mesh repair is a feasible method with low complication rates in SUI with AVP.

Disclosures

**Funding:** None **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** The study was approved by the ethics committee of Bozok University. No: 2014/36. **Helsinki:** Yes **Informed Consent:** Yes