

2-POINTS, HALF-SIZED VS. 4-POINTS, FULL-SIZED ANTERIOR TRANSOBTURATOR POLYPROPYLENE MESH IN THE CORRECTION OF ANTERIOR VAGINAL WALL PROLAPSE

Hypothesis / aims of study

Mesh erosion has emerged as one of the most significant safety issues of the synthetic mesh usage in surgical correction of pelvic organ prolapse^{1,2}. In this study, we compared the effectiveness and safety of the two anterior transobturator mesh reinforcement methods for treating anterior vaginal wall prolapse; the novel 2-points, half-sized mesh method with the conventional 4-points, full-sized mesh method. Effectiveness was measured by non-recurrence rate and safety was measured by mesh erosion rate.

Study design, materials and methods

Fifty women with anterior vaginal wall prolapse stage 2 or higher (POP-Q system) underwent anterior vaginal wall plication, then reinforced by anterior transobturator vaginal mesh operation using macropore polypropylene mesh (SERASIS ATOM®). Twenty-seven of them were operated by 4-points transobturator method with anterior vaginal wall plication: manufacturer's original size mesh was trimmed and anchored through obturator foramen transversely between arcus tendinous fasciae pelvis with anterior and posterior arms on each side. Twenty-three of them were operated by novel 2-points, half-sized mesh method with plication: half-sized trimmed mesh was anchored on each side by only the posterior arms.

Results

Patient's characteristics and the rate of combined surgery (VTH, posterior vaginal repair and sacrospinous ligament fixation) were comparable in the two groups. No major intraoperative complication was observed in both groups. Follow up period ranged from 27 months to 6 months. The 2-points, half-sized mesh group (mean age 64.7± 8.28 and parity 3.91±1.41) and the 4-points, full-sized mesh group (mean age 67.0± 6.61 and parity 4.22±1.48) had no statistically significant difference in operation time (79.1±32.1 vs. 88.0±36.3 minutes), postoperative hemoglobin changes (2.16±1.22 vs. 2.00±1.02 g/dL) and the number of recurrence of prolapse needing additional surgery or pessary use (2/23 cases vs. 2/27 cases). However, mesh erosion rate was significantly higher in the 4-points group than in the 2-points group (5/27, 18.5% vs. 1/23, 4.3%; p=0.039). All of the mesh erosions were developed in the edge of the anterior vaginal incision and were smaller than 2x2 cm. For the treatment of the mesh erosions, 3 patients of the 4-points group and 1 patient of the 2-points group underwent partial excision of the mesh. The other 2 patients of the 4-points group were successfully treated only with conservative local estrogen treatment.

Interpretation of results

Comparing the recurrence rates of the anterior vaginal wall prolapse needing additional treatment in the two groups, 2-points technique using half-sized mesh showed comparable effectiveness in the treatment of anterior vaginal wall prolapse. Both methods provided satisfactory anatomical corrections of anterior vaginal wall prolapse during our relatively short follow up period. The difference in the size of the prolene mesh used in both groups may explain the difference of mesh erosion rates. It suggests that using a smaller mesh is safer than using a larger one. Additional studies are needed to confirm this observation.

Concluding message

Smaller sized polypropylene mesh using technique in transobturator mesh correction of anterior vaginal wall prolapse may reduce the risk of mesh erosion after operation.

References

1. Int Urogynecol J Pelvic Floor Dysfunct. 2005;16(5):389-94.
2. Int Urogynecol J Pelvic Floor Dysfunct. 2007;18(1):73-79.

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What were the subjects in the study?	HUMAN
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Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes