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IS TENSION-FREE VAGINAL MESH PROCEDURE FEASIBLE IN JAPAN? -ONE YEAR POSTOPERATIVE OUTCOMES OF 240 PELVIC ORGAN PROLAPSE CASES-

Aims of study

Tension-free vaginal mesh (TVM) procedure is expected to be one of the most competent measures for the reconstruction of the pelvic floor because of low morbidity due to the vaginal approach, preservability of uteri, improved long-term results with the progress of the prosthetic material although some authors didn't appreciate vaginal mesh surgery mainly because of high mesh erosion rate(1). Gynecare Prolift®, a pelvic floor repair system based on the TVM concept, has been available in many countries since 2003 and surgeons now can easily approach this procedure. However, no TVM system is available now in Japan. So in Japan we had to devised special needles to perform TVM procedure using non-absorbable soft plypropylene mesh (Gynemesh PS®).

The aims of this study are (a) to evaluate the feasibility of the TVM procedure using Gynemesh PS® which is available in Japan by surveying the one year postoperative outcomes and (b) to check whether mesh erosion is avoidable or not.

Study design, materials and methods

Two hundred forty patients with several types of pelvic organ prolapses (POP) who underwent TVM operation at our hospital from June 2005 to December 2006 were surveyed. Operative procedures are almost the same as those described by TVM group in France(2). We devised special needles to put the mesh arms through the arcus tendeneous fascia pelvis or the sacrospinous ligament. We used the Gyunemesh PS®, size of which is either15-by-10 cm (from June 2005 to January 2006) or 25-by-25 cm (from February 2006 to December 2006) by trimming it into the special shapes whose core shapes are almost the same as those used in the Gynecare Prolift® system.

Age of the patients, operation time, complications including recurrence and mesh erosion were listed. Recurrence of POP and mesh erosion were checked at three points (3 months, 6 months and 1 year after operation). Cases with Stage 3 or 4 of Barden & Walker system after operation were counted as recurrence of POP.

Multiple logistic regression was used to determine independent predictors of vaginal erosion. Variable considered were age, previous hysterectomy, operation time, parity and duration of POP.

Results

Mean operation time was 43.3min.for the anterior TVM(TVMA) , 44.7 min. for the posterior TVM(TVMP) and 80.6 min. for the combination of the anterior and posterior TVM(TVMAP). Complication included 36 cases (15%) of dysuria needed concomitant intermittent catheterization (CIC), 4 cases (1.6%) of urinary bladder injuries, 7 cases(2.9%) of vaginal erosions and 9 cases (3.8%) of recurrence of POP.

There were no cases of serious hemorrhage needed blood transfusions or intra-pelvic hematomas. In every case having vaginal erosion, the erosion was situated near the cervix where the mesh made wrinkles. Size of mesh exposed in every case was smaller than 1 square cm and 3 out of 7cases demanded surgical treatments.

Multivariate logistic analysis revealed none of the potential predictive factors was significantly associated with the probability of vaginal erosion.

Interpretation of results

(1) We could perform 240 cases of TVM operation using special needles and Gynemesh PS® without serious complications.
(2) The recurrence rate and erosion rate were lower than those reported previously(1)(2).
(3) No definite factor is significantly associated with the probability of vaginal erosion.

Concluding message

(1) As our TVM procedure with special needles and Gynemesh PS® was less invasive than any other conventional procedures used in Japan, this procedure is feasible now in Japan and will be one of the most competent measures to deal with several types of the pelvic organ prolapse.
(2) Vaginal erosion might be avoidable if the surgeon pay enough attention not to make wrinkles in the mesh applied.

References

(1) Int Urogynecol J (2007) 18; 73-79
(2) J Gynecol Obstet Reprod (2004) 33;577-587

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