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LONG-TERM OUTCOMES AFTER TRANSVAGINAL MESH REPAIR OF ANTERIOR AND POSTERIOR COMPARTMENT PROLAPSE: A 7-11-YEAR FOLLOW-UP STUDY

Hypothesis / aims of study

The use of transvaginal mesh (TVM) in surgical management of pelvic organ prolapse (POP) is still a subject of debate. The aim of our study was to determine the long-term outcomes of TVM repair of anterior (ACP) and posterior compartment prolapse (PCP), and to compare the complication rate and prolapse recurrence in these groups.

Study design, materials and methods

Women in whom surgery for POP using TVM (Perigee® - group 1 or Apogee® - group 2) was performed at our department between years 2005 and 2009 were included in the study. For each patient, detailed history and urinary culture were obtained, and urogynaecological examination was performed. Patients also filled out the PISQ-12, UIQ-7, CRAIQ-7, POPIQ-7, and PFIQ-7 questionnaires. SPSS Statistics 21.0 programme was used for the analysis. Basic patients' characteristics were calculated. Data between groups were compared using Pearson's Chi-square for categorical and Mann-Whitney U-test for numerical data. Statistical significance was set at $p<0.05$.

Results

Seventy-nine patients were included in this follow-up study, 64 (81%) in group 1 and 15 (19%) in group 2. Average time after the procedure was approximately 7-10 years. There were no statistically significant differences in basic patients' characteristics between groups (Table I).

Table I: Basic Patients' Characteristics

Variable	All patients	Group 1	Group 2	p-value
Age at the procedure [years±SD, min-max]	57.4±11.1 (27-76)	57.5±11.3 (27-76)	57.1±10.3 (41-76)	NS
Age at the follow-up [years±SD, min-max]	67.1±11.1 (37-86)	67.3±11.3 (37-86)	66.5±10.3 (50-82)	NS
Time from the procedure [days±SD, min-max]	3517.8±331.6 (2700-4243)	3533±351.7 (2700-4243)	3453.1±224.6 (3142-3948)	NS
BMI [kg/m^2±SD, min-max]	27.3±4.1 (19.5-41.1)	27.4±4.4 (19.5-41.1)	27.0±2.8 (23-33)	NS
Pregnancies [No±SD, min-max]	2.5±1.1 (1-6)	2.5±1.1 (1-6)	2.7±1.2 (1-5)	NS
Deliveries [No±SD, min-max]	2.2±0.8 (1-5)	2.2±0.8 (1-5)	2.1±0.8 (1-3)	NS
Vaginal deliveries [No±SD, min-max]	2.0±0.9 (0-5)	2.0±0.9 (0-5)	1.8±0.9 (0.3)	NS
Other medical issues: yes [%]	77.2	78.1	73.3	NS
Menopause: yes [%]	92.4	93.7	93.3	NS
Other gyn. procedures: yes [%]	25.3	25.0	26.7	NS
Local oestrogen therapy any time after the procedure: yes [%]	15.2	10.9	33.3	NS
Hormone replacement therapy any time after the procedure: [%]	5.1	4.7	6.7	NS
Urogynaecological disorders after the procedure: yes [%]	29.1	29.7	26.7	NS
Sexually active: yes [%]	51.9	51.6	53.3	NS

Legend: SD = standard deviation, NS = non-significant

The percentage of patients with prolapse stage 0 or I in group 1 was 85.7% and 93.3% in group 2. Mesh exposure occurred in 11.7% of patients and the average size of the exposed mesh was approximately 11 mm^2. Women with mesh exposure did not have higher incidence of positive urinary cultures compared to women without mesh exposure. Only eleven (13.9%) women needed another surgical procedure because of prolapse recurrence or prolapse of another compartment, and five patients (6.3%) needed surgery because of mesh exposure. There were no significant differences when comparing different patients' outcomes between groups (Table II).

Table II: Patients' outcomes

Variable	All patients	Group 1	Group 2	p-value
Mesh exposure: yes [%]	11.7	7.9	28.6	NS
Pain on bladder palpation: yes [%]	24.4	23.8	26.7	NS
Pain on pelvic floor palpation: yes [%]	47.4	42.9	66.6	NS
Dyspareunia: yes [% of sexually active patients/all patients]	39/20.3	39.4/20.2	37.5/20.0	NS
Chronic pelvic pain: yes [%]	21.8	22.2	20.0	NS
Positive urinary culture: yes [%]	31.1	27.3	33.3	NS

PISQ-12 total [score±SD, min-max]	33.7±7.0 (18-53)	33.2±6.2 (18-47)	35.4±10.0 (21-53)	NS
UIQ-7 [score±SD, min-max]	27.9±27.9 (0-100)	27.8±27.7 (0-100)	28.5±30.0 (0-80.9)	NS
CRAIQ-7 [score±SD, min-max]	19.8±25.8 (0-100)	20.5±25.7 (0-100)	16.7±27.1 (0-71.4)	NS
POPIQ-7 [score±SD, min-max]	18.5±26.7 (0-100)	18.9±25.9 (0-100)	16.7±30.8 (0-76.1)	NS
PFIQ-7 [score±SD, min-max]	66.2±73.3 (0-300)	67.2±74.6 (0-300)	61.8±70.0 (0-199.8)	NS
UDI-6 [score±SD, min-max]	28.8±26.5 (0-100)	28.9±26.7 (0-100)	28.3±26.8 (0-75)	NS

Legend: SD = standard deviation, NS = non-significant

Interpretation of results

To our knowledge, this is one of the studies with the longest follow-up period in this field. Our results show a good anatomical support 7-10 years after the primary procedure with prolapse stage 0 or I in 85.7% of patients after TVM repair of ACP and 93.3% of PCP, respectively. The incidence of mesh exposure was comparable to results of other studies [1, 2] and did not differ between groups. The size of exposed mesh was very small and almost half of the cases of mesh exposures were asymptomatic. Only five patients needed surgery because of mesh exposure, others did not wish to have the correction because they were asymptomatic. No significant differences were found in other patients' outcomes between groups including questionnaires' scores. These findings suggest that TVM repair of ACP and PCP is effective and that the risk of prolapse recurrence is low, however, patients need to be counselled regarding the possible complication. In our experience, some patients are at greater risk of developing recurrent mesh exposures even after a careful surgical correction of the primary exposure. Further research should be directed into identifying patients who are at greater risk of this kind of tissue-mesh interaction.

Concluding message

In our experience, TVM repair of POP offers good anatomical support even 7-11 years after the primary surgery. However, these benefits should be weighed against possible complications, especially mesh exposure. Careful patient selection and counselling is of great importance when deciding on TVM procedure.

References

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