

# Long-term Outcomes after Transvaginal Mesh Repair of Anterior and Posterior Compartment Prolapse: a 7-11-year Follow-Up Study

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## Hypothesis / aims of study

The use of transvaginal mesh (TVM) in surgical management of pelvic organ prolapse (POP) is still a subject of debate. For example, although transvaginal mesh repair of anterior compartment prolapse (ACP) reduces the risk of prolapse recurrence, these procedures are associated with longer operating time and higher blood loss, increased rate of apical or posterior compartment prolapse (PCP), de novo stress urinary incontinence and possibility of mesh exposure [1]. The aim of our study was to determine the long-term outcomes of TVM repair of ACP and 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.
- **Patient work-up:** detailed history and urogynaecological examination, urinary culture, PISQ-12, UIQ-7, CRAIQ-7, POPIQ-7, and PFIQ-7
- 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

- N=79 (64 (81%) in group 1 and 15 (19%) in group 2), follow-up rate **7-11 years**
- The percentage of patients with **prolapse stage 0 or I in group 1 was 85.7% and 93.3% in group 2**. Mesh exposure at the follow-up was found in **11.7%** of patients and the average size of the exposed mesh was approximately 11 mm<sup>2</sup>. 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 in the time until the follow-up.

Table 1: 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 [years±SD, min-max]	9.6±0.9 (7.4-11.6)	9.7±1 (7.4-11.6)	9.5±0.6 (8.6-10.8)	NS
BMI [kg/m <sup>2</sup> ±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 estrogens after the procedure: yes [%]	15.2	10.9	33.3	NS
HRT after the procedure: [%]	5.1	4.7	6.7	NS
Urogyn. problems after the procedure: yes [%]	29.1	29.7	26.7	NS
Sexually active: yes [%]	51.9	51.6	53.3	NS

Table 2: Patient 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

## Conclusions

Our results show a good anatomical support 7-11 years after surgery 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]. No significant differences were found in patients' outcomes between groups. 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 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.

Disclosures: None.

References:

- 1 Maher C, Feiner B, Baessler K, Schmid C. Surgical management of pelvic organ prolapse in women. Cochrane Database Syst Rev 2013; (4): CD004014.
- 2 Committee Opinion No 513. Vaginal Placement of Synthetic Mesh for Pelvic Organ Prolapse. The American College of Obstetricians and Gynaecologists, 2011.