

## MESH EROSION RATE AND TIME TO EROSION FOLLOWING VAGINAL URINARY INCONTINENCE AND PELVIC PROLAPSE PROCEDURES

### Hypothesis / aims of study

The support advantages of synthetic mesh in vaginal reconstructive surgery are significant. However, erosion of the mesh may occur and complicate the repair. We wished to learn the erosion rate and time to erosion in our select group of patients undergoing vaginal stress incontinence and prolapse surgeries using synthetic mesh.

### Study design, materials and methods

576 consecutive women underwent vaginal reconstructive surgery with synthetic mesh between August 2000 and October 2009. The indications were for the treatment of stress urinary incontinence with or without pelvic organ prolapse repair. 367 patients in the study period had at least one year follow-up. 209 patients did not have at least one year follow up and were excluded from the study. Procedures were subdivided into four groups: 63 patients underwent a polypropylene pubo-vaginal sling (pvs), 149 underwent a pvs with anterior repair using polypropylene mesh for bladder support, 135 underwent pvs with anterior and posterior repairs, using mesh for the sling under the bladder and over the rectum in the posterior compartment, and 20 underwent pvs with vaginal hysterectomy and anterior and posterior repairs, in which mesh was used to support the apex as well as the other compartments. The amount of mesh used was dependent upon the type of defect: anterior, posterior, or apical

### Results

Overall, mesh erosion was observed in 42 of the 367 patients (11.4%). The rate of mesh erosion was 6.3% (4/63) in the pvs group, 14.7% (22/149) in the pvs and anterior repair group, 11.1% (15/135) in the pvs with anterior and posterior repairs group and 5% (1/20) in the pvs with hysterectomy and anterior and posterior. Percent erosion free at one year post-op was 91%, at two years 89%, at three years 87% and at four years 85%. The range to mesh erosion was fourteen days (the shortest time period) to seven years (the longest time period).

### Interpretation of results

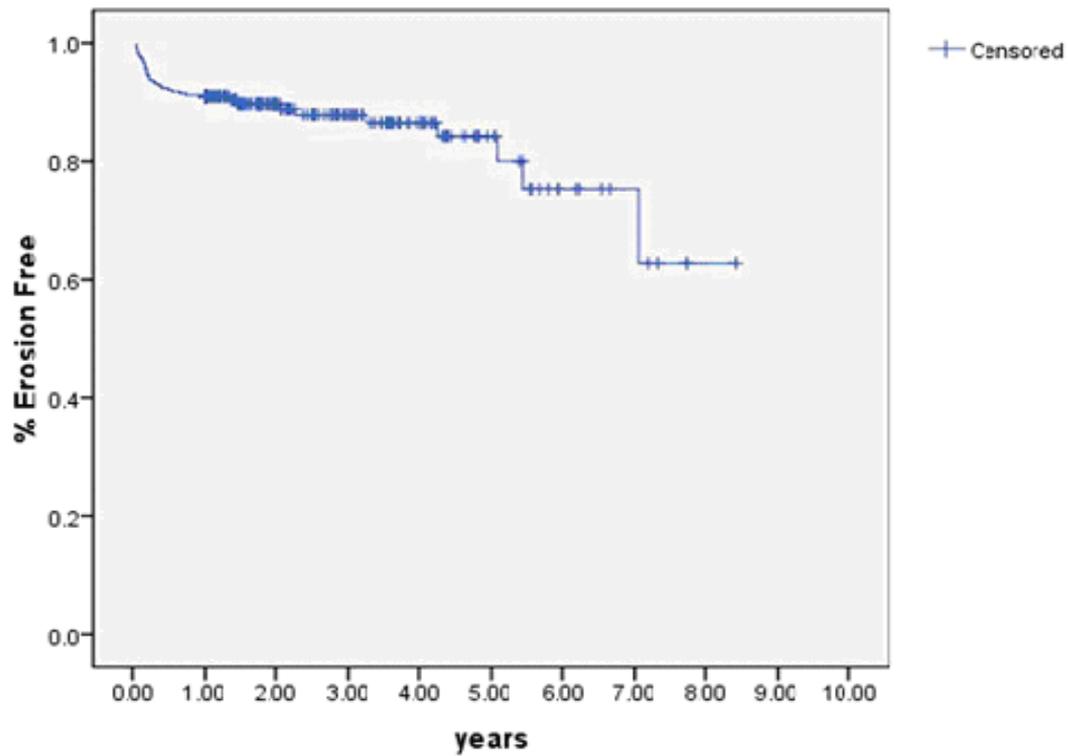
The results of the present study have shown that the complication rate (erosion) of mesh repairs for stress urinary incontinence in combination with anterior, posterior and/or uterine prolapse are approximately 11% over at least one year. 5% to 15% of our patients sustained vaginal and/or urinary tract mesh erosion at a median time of 2 to 24 months, respectively. However, using a long term time to mesh erosion analysis, we were able to show that at one year to four years follow up, 89% and 85% of our mesh patients were erosion free, respectively.

### Concluding message

Our study provides a large series of prolapse cases done by single surgeon with follow-up that extends out for at least one year, and in many cases, over eight years. The incidence of long term mesh erosion needs to be considered with respect to the support advantages of synthetic mesh in planning vaginal reconstructive surgery. As more experienced pelvic surgeons adopt the use of mesh in their surgeries, techniques will improve and we should be able to reduce the risk of erosion even further.

Procedure	N: Cases	Incidence of mesh	Time to mesh erosion (Median in months)
PVS	63	6.3% (4/63)	2.6
PVS & Anterior Repair	149	14.7% (22/149)	4.0
PVS & Anterior/Posterior Repair	135	11.1% (15/135)	2.0
PVS + Hysterectomy + Anterior/Posterior Repair	20	5% (1/20)	24
Total	367	11.4% (42/367)	

Time to Mesh Erosion  
*Combined Procedures*



Kaplan-Meier survival function curve showing time to mesh erosion with all procedures.

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<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>NONE</b>