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Klein T[1], Alhalabi F[1], Zimmern P[1]
1. *UT Southwestern Medical Center*

LONG-TERM OUTCOMES OF ROBOTIC MESH SACROCOLPOPEXY

Hypothesis / aims of study
To evaluate anatomic and functional late term outcomes of robotic mesh sacrocolpopexy (RMS) for symptomatic pelvic organ prolapse at a single tertiary care institution.

Study design, materials and methods
Following IRB approval, charts of woman undergoing RMS for symptomatic prolapse were reviewed. This is a retrospective longitudinal study from a prospectively collected database maintained by an independent database manager, with a minimum 3 years follow-up.

Preoperative data collected from an electronic medical record (EPIC) included a detailed history, examination using POP-Q classification system and in cases with bladder involvement a voiding cystourethrogram and urodynamic testing with prolapse reduction as previously reported [1]. Urogenital Distress Inventory (UDI), Incontinence Impact Questionnaire (IIQ), and a global Quality of Life (QOL) questionnaire were obtained pre and post-operatively. Preoperative demographics at time of surgery included age, parity, prior hysterectomy, prior prolapse and anti-incontinence surgery, hormone replacement whether systemic or local, and body mass index. Estimated blood loss and operative time were also recorded.

The surgical technique has been previously described [2] and includes use of a polypropylene (Marlex^{TM}) mesh in a Y-fashion secured vaginally with an absorbable 2-0 polyglactin sutures and with permanent sutures placed on the promontory, followed by complete mesh retroperitonialization. Postoperative data included information on examination with POP Q measurements, questionnaires, and re-operation procedures at yearly intervals. Descriptive statistics were used. POP-Q at the last visit was used as the main outcome criteria.

Results
Fifty women underwent RMS between 12/2007 and 2/2012. Of these, 25 had follow-up greater than 36 months. Mean age was 64 (37-86), with mean parity at 2,2 (1-7), and BMI 23.9 (18-31). Mean follow-up was 56 months (37-84). All but one patient (24/25 = 96%) had a prior hysterectomy and this patient underwent a supracervical hysterectomy with RMS. Two women were on systemic hormones (8%) and an additional 5 were on topical hormones (20%). Prior pelvic organ prolapse surgery had been done in 7 of 25 (28%) and prior anti-incontinence surgery in 5 of 25 (20%) patients with no patients having both performed.

At the time of surgery, prolapse compartment was: 4 women anteriorly (16%), 11 posteriorly (44%), 2 at the vault (8%), 2 anterior & vault (8%), 4 posterior & vault (16%), 1 anterior & posterior (4%), and in all three compartments in 1 woman (4%). Mean estimated blood loss was 58.8 ml (range 10 to 200 ml). Mean total operative time was 3.86 hours (range 2.75 to 5 hours). No patients required conversion to open surgery. Concomitant procedures included excision of a urethral caruncle (1), fulguration of trigone (1), supracervical hysterectomy with bilateral salpingo-oophorectomy (1), and lysis of adhesions in 5 cases. There were 3 intraoperative vaginotomies that were oversewn without further complication. Only one 30-day complication was noted (4%). This was a clostridium difficile infection of the colon which responded to antibiotics.

C-point went from a mean of -2.1 (range 0 to -5; n=17) to -9.5 (-6 to -12; n=24). Mean UDI-6 score went from 4.86 (range 0-13; n=22) to 4.08 (0-15; n=25). The mean IIQ score went from 2.89 (range 0-22; n=19) to 1.09 (0-11; n=23), and mean QOL score from 4.12 (0-10; n=21) to 1.87 (0-5; n=23).

At 36 months or greater of follow-up the success rate was 84% with four woman developing secondary prolapses. One cystocele developed in a woman who only had posterior prolapse at the time of RMS and she opted for a pessary. Another woman with an anterior compartment RMS developed a secondary posterior compartment prolapse. One woman had a distal rectocele repaired at 31 months from her RMS while one underwent an anterior colporrhaphy 19 months after her posterior/vault compartment Eight women were sexually active and remained so after surgery with no dyspareunia reported.

Interpretation of results
Very-long term data is available for open mesh sacrocolpopexy and demonstrates gradual increase in pelvic organ prolapse recurrence over a 7 year follow-up. Without a concomitant urethropexy symptomatic failure approached 24% and anatomic failure approached 22% [3].

In this long-term study to evaluate the results of robotic mesh sacrocolpopexy we found stable results and improved quality of life over time comparable to the open approach. Furthermore, the robotic approach had low rates of complications. Also the use of absorbable sutures can be employed with durable long-term results and no additional risk of mesh erosion. Secondary prolapses can occur and warrant long-term monitoring of these patients.

Concluding message
This long-term study (3-7 years follow-up) indicates durability for RMS in the management of pelvic organ prolapse.

References
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Disclosures
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