

## TRANSVAGINAL REPAIR OF VAULT PROLAPSE WITH FULL LENGTH POLYPROPYLENE MESH AT LOW COST

### Introduction

Vault prolapse is a difficult entity to treat. Of the various modalities available laparoscopic sacrocolpopexy is generally regarded as the best option at present. Sacrospinous colpopexy was the vaginal method of choice, but of late transvaginal mesh repair has become popular. The drawback with mesh repair in general is the risk of erosion into vagina or viscera like bladder or bowel. The commercially available meshes are prohibitively expensive especially for developing countries where the need for prolapse repair is all the more. This video presentation demonstrates the use of an improvised full length multitailed soft polypropylene mesh for vault prolapse which is cheap and with minimum complications.

Vault prolapse, almost always is associated with prolapse of anterior or posterior compartment. Just anchoring the vault to a higher structure like sacrum, as in sacrocolpopexy, does not take care of this. Vaginal approach gives an opportunity to correct anterior and posterior compartment defects and can be done under regional anesthesia.

### Design

This is a case series of the use of mesh in 37 consecutive cases of vault prolapse treated by the author from February 2008 to December 2009. The mesh was shaped from soft macroporous monofilament polypropylene available as sheets of 10 x 15 cms size (Gynemesh PS Gynecare). Three pieces of 3.3cms width and 15 cms length were cut from each sheet and formed the central core. Four tails, each 30 cms long (made from Centilene soft mesh- Centenial), projecting to both sides were placed across the central core and secured with 2"0" polyglycolic acid stitches. The mesh trocars were made of steel and were reusable. Institutional review board had given consent for the study and informed consent was obtained from the patients. There was no external funding or industry support.

**Surgical technique:** An inverted T shaped incision was put from vault to suburethral area and another on posterior vaginal wall starting from inside hymenal rim for a length of about 5 cm. A segment of posterior vaginal wall near the vault was left without incision to prevent adhesion between the anterior and posterior suture lines. Enterocoele was identified and corrected first. Fascial repair of cystocele and rectocele was undertaken as indicated. The full length mesh was laid to support the bladder, vault and rectum. The tails were taken out in a tension free manner. The anterior two tails were taken out through the obturator triangle at its medial border. The tail at the vault was made to go through the lower edge of the sacrospinous ligament and ischioanal fossa and emerge 3 cm posterolateral to the anal verge. The posterior lower tail pierced the lateral vaginal wall at the level of the apex of the perineal body and emerged 1 cm anterior to the previous tail. Vagina was closed longitudinally after trimming the excess. A pack was kept in the vagina overnight. Indwelling catheter was left for 48 hours.

### Results

There were 37 cases of vault prolapse, 23 following abdominal hysterectomy and 14 after vaginal hysterectomy. The mean age was 60 and the range 45 to 78. Mean duration of surgery was 90 minutes. Thirteen of them had diabetes mellitus. The mean postoperative hospital stay was 3.5 days and mean duration of catheter use was 2.1 days. All patients were followed up two months after surgery. All of them were also recalled for follow up prior to this report; 10 came in person (mean interval from surgery 9 months) and an additional 5 responded by letter. The mean stations of the reference points in the 10 patients who came for follow up are as follows (before surgery and at present respectively): Ba at + 5.5 and -1.4; C at +6 and - 6.7; Bp at +4 and -2.4. The patient satisfaction score showed high scores. All the 15 indicated that they were extremely happy with the surgery and would recommend it to a friend. The nine patients who marked on a point scale of 10 gave a mean score of 9.5 as their final assessment of satisfaction.

There was only one case of mesh erosion (on anterior vaginal wall 3 cm above external urethral meatus). This patient did not have any symptoms and was also not sexually active. Hence no action was taken. All those who were sexually active before surgery resumed sexual intercourse except one who did not start due to fear. One who did not have sexual contact before surgery started to have intercourse after surgery.

The mesh costs equivalent of US\$ 200 to the patient where as the commercially available kits cost six times that amount.

### Conclusion

The present technique with improvised mesh has given very good surgical results with very low complication rates and extremely high patient satisfaction. Being a vaginal procedure surgery under regional anesthesia was possible. The relatively low cost and vaginal approach make it a useful procedure suitable for the low income settings.

<b>Specify source of funding or grant</b>	none
<b>Is this a clinical trial?</b>	No
<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	Yes
<b>Specify Name of Ethics Committee</b>	Institutional review board, Mother hospital, Thrissur, Kerala, India

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<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes

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