Less Intrusive Abdominal Wall Organopexy As Surgical Treatment for Stage III and IV Genital Prolapse

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ABSTRACT

Objective — *To document the outcome of abdominal wall organopexy (cervicopexy) for stage III and IV genital prolapse.*

Study design — *Observational cross-sectional study.*

Place & Duration of study — *Fatima Bai Hospital Karachi, from October 2019 to July 2022.*

Methods — *Patients of reproductive age group having stage III and IV genital prolapse assessed by POP-Q classification were included. AWO was performed by affixing the cervix at internal os to the rectus sheath using polypropylene sutures to uplift the anterior vaginal wall through abdominal wall route.*

Results — *Total of 30 patients underwent abdominal wall organopexy (cervicopexy) for stage III and IV uterine prolapse, twenty (66.6%) patients had associated risk factors for the prolapse that included multiparity in 25 (83.3%) and in 18 (60%) patients' history of lifting heavy weight was reported. Seventeen (56.67%) patients had BMI between 26 – 30 Kg/m^2. In 23 (76.6%) patients operating time was between 15-20 minutes. Postoperatively, 26 (86.6%) had early recovery. Postoperatively 21 (70%) patients reported using contraceptive methods. Out of nine patients who tried for pregnancy, 02 (6.7%) conceived and delivered by cesarean sections. No patient reported uterine prolapse recurrence after two years of follow up.*

Conclusion — *The surgical procedure performed was less invasive, easy to perform, with minimum postoperative complications and satisfactory mid-term follow up for genital prolapse of stage III and IV.*

Key words — *Abdominal wall organopexy, Genital prolapse, Uterine prolapse, Cervicopexy.*

INTRODUCTION:

Uterine prolapse is a common disorder that negatively impacts a woman's quality of life.[1] Although young women may sometimes be affected, it primarily occurs in post-menopausal women. The commonest symptom associated with this condition is a feeling of something coming out of the vagina. Many women may complain of a bulging mass in the vagina, imperfect control over urination, less often gastrointestinal symptoms and often sexual dysfunction.[2,3] Multiple vaginal births, strenuous physical labor, obesity, a chronic cough, constipation, and malnutrition are the common risk factors associated with the uterine prolapse.[4,5]

Numerous surgical procedures are reported for this condition either through a transvaginal or transabdominal approach, but still there is a lack of consensus on one acceptable technique that is secure, efficient, technically easy with quick recovery

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and better learning curve.[6] The patients' preference, the effect on their sexual life, and the psychological reaction to removing or saving the uterus are also important factors taken into the considerations.[6] In contemporary times hysterectomies are being replaced by uterus-preserving treatments more frequently.[2]

Anterior abdominal wall cervicopexy is a simple, quick, and efficient method for treating stage III and IV persistent organ prolapse among all the uterus-preserving operations.[7] It is an affordable procedure, with short operation time and fewer complications.[8] In a low-income country where this condition is frequently reported it can be learnt easily. The rationale of this study was to report the outcome of this surgical procedure for the treatment of persistent organ prolapse of stage III and IV.

METHODS:

Study design, place & duration: This was an observational cross-sectional study conducted at Fatima Bai hospital Karachi, from October 2019 to July 2022.

Ethical considerations: The study was approved by ethics committee of Fatima Bai hospital (letter dated October 1, 2019). Informed consent was taken from the patients after providing them details of the operative procedure and its outcome.

Inclusion criteria: Patients of reproductive age with stage III and stage IV uterine prolapse were included. They all desired to save their uteri.

Exclusion criteria: Women who had uterine prolapse with menstruation problem and agreed for a hysterectomy, were excluded.

Sample size estimation and sampling technique: A total of 30 women were included in the study through convenient sampling technique.

Study protocol: The POP-Q quantification technique was utilized to evaluate the uterine prolapse. Abdominal wall organopexy was done by affixing the cervix to the rectus sheath at the internal os with polypropylene sutures and uplifting the anterior vaginal wall via the abdominal route. Patients were seen in outpatient department monthly for the first six months, then at three monthly intervals for subsequent six months and then six monthly thereafter.

Statistical analysis: Data were compiled and analyzed through SPSS version 23. Frequency and percentages were computed for study variables. The association of uterine prolapse stage with study variables was assessed using Fisher's exact test and a $p < 0.05$ was considered as significant.

RESULTS:

All patients were married women. Twenty (66.6%) patients were between 36 years to 40 years of age. Stage III uterine prolapse were found in 24 (80%) patients. Majority of the women (n=18 – 60%) were overweight as per BMI. In one patient an attempt was made for correction but failed. Details are given in table I. Risk factors are shown in table II. No intra-operative complication occurred. However, four (13.3%) patients' complaint of postoperative pain and were prescribed pain medications. Details of the surgical procedure performed and follow up are given in table III. Twenty-six (86.6%) patients were discharged within 48-hours after surgery. Two women got pregnant after the procedure within one year. Both had cesarean section for the delivery of the baby.

A significant association was observed for stage of the uterine prolapse and postoperative hospital stay ($p < 0.018$). On the other hand, there was no significant association found with other variables (table IV).

DISCUSSION:

In this study for stage III and IV uterine prolapse, abdominal wall organopexy (cervicopexy) was performed on patients who wished to keep their uterus and had no other pathological conditions related to the female reproductive system. It was relatively simple procedure and easy to execute. It did not involve any mesh which is difficult to place. The original abdominal wall cervicopexy surgery has a long-term success rate of 90%, which is equivalent to other technically challenging surgeries such as sacrospinous and sacral hysteropexy techniques.[1,9,10]

In addition to ventrosuspension, anterior abdominal wall hysteropexy, laparoscopic sacro-colpopexy, and transvaginal mesh implantation, number of techniques are used for uterine suspension. In contrast to the round ligament, which is suspended from the uterus with a high failure rate, the anterior wall cervicopexy is more common as it provides long vertical uterine elevation and supporting benefits for stage III and IV prolapse.[11,12] The uterine anchoring suture point is first at the internal os (presence of strong stromal fibroelastic tissue). It also provides good support by taking 3 to 4 suture bites at this location with high-up at rectus sheath.[1] Abdominal wall organopexy (cervicopexy) secures

Table I: Distribution of Study Variables

Variables	Frequency (n)	Percentage (%)
Age (years)		
30 - 35	05	16.7
36 – 40	20	66.6
41 – 45	05	16.7
Uterine prolapse stage		
stage III	24	80.0
stage IV	06	20.0
Parity		
2-4	22	73.3
> 4	08	26.7
Residence		
Rural	24	80.0
Urban	06	20.0
BMI (Kg/m^2)		
20 – 25	11	36.7
26 – 30	18	60.0
> 30	01	03.3
Risk Factors for Prolapse		
No risk factors	02	06.7
1 - 2 Risk factors	20	66.6
> 2 Risk factors	08	26.7
Duration of Complaints (years)		
<3	09	30.0
3-4	13	43.3
>4	08	26.6

Table II: Risk Factors Distribution

Variables	Frequency (n)	Percentage (%)
Causative Factors - Multiparity		
Yes	25	83.3
No	05	16.7
Causative Factors - Heavy weight lifting		
Yes	18	60.0
No	12	40.0
Causative Factors - Chronic Increased Abdominal Pressure		
Yes	04	13.3
No	26	86.7

the uterus to the transverse cardinal ligament and uterosacral ligament, which are the closest natural bracket locations.

Organopexy is less invasive and is similar to sacral colpofixation and sacrospinous fixation for apical prolapse. It can also be used to treat vaginal prolapse in cases when it is simple to hinge the vaginal mucosa after dissection using the rectus sheath. Laparoscopic sacrohysteropexy has maintained the gold standard for the treatment of apical prolapse among abdominal uterine preservation operations

Table III: Operative Details and Follow up

Variables	Frequency (n)	Percentage (%)
Procedure Time for Organopexy (minutes)		
15 - 20	23	76.7
21 – 30	06	20.0
> 30	01	03.3
Duration of follow-up (months)		
06-12	19	63.3
13 – 18	05	16.7
19 – 24	06	20.0
Contraception		
Used	21	70.0
Not used	09	30.0

Table IV: Association of Uterine Prolapse Stage with Postoperative Hospital Stay

Post-operative stay (days)	Uterine prolapse Stage		Total	p-value
	Stage III	Stage IV		
1-2 days	23 (88.5%)	03 (11.5)	26 (100%)	0.018
>2 days	01 (25.0%)	03 (75.0%)	04 (100%)	
Total	24 (80.0%)	06 (20.0%)	30 (100.0%)	

though the method does have certain limitations.[9]

Transvaginal surgery has grown in popularity over the past few decades due to its excellent short-term success rate, particularly in the anterior compartment, but serious complications are reported with the use of surgical mesh in this technique.[13,14] In contrast, the less intrusive procedure used in this study did not require any mesh for abdominal wall cervicopexy as reported in another study.[15]

The mean age of 40 years of study participants in index series was different from that reported in women who underwent laparoscopic sacrohysteropexy.[16] Theoretically, the anterior vaginal wall is pulled upward by the uterine ventral suspension, which also helps to correct anterior compartment prolapse. In a study, 85% of the anterior compartment subjects underwent laparoscopic organopexy with non-mesh genital suspension (LONG) surgery, which has around 9% recurrence rate.[16]

Limitations of the study: This is a single center study of small number of patients. Multicenter collection of data and larger sample size are recommended for future studies in order to have more meaningful results that can be generalized.

CONCLUSION:

Anterior abdominal wall organopexy is easy to execute without the use of mesh. It is therefore a cost-effective procedure. The nearest typical supporting points (the transverse, cardinal, and uterosacral ligaments) are used to lift the uterus. This modified organopexy (cervicopexy) procedure has good outcome and is most appropriate for stage III and IV genital prolapse

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