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Quality of Life Following Pelvic Organ Prolapse Surgical Treatments in Women

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Hypothesis / aims of study

Pelvic organ prolapse POP can lead to discomfort in the vagina and changes in bladder and bowel function that can greatly affect women's quality of life (QoL), with sexual impacts. The aim of this study was to evaluate how two surgical techniques can improve the QoL of women affected by POP.

Study design, materials and methods

The trial was conducted between 2010 to 2015. Women with symptomatic uterovaginal prolapse POP-Q stage ≥ 2 in at least one compartment requiring surgery who attended the pelvic floor clinic of our hospital were recruited. Patients with co-existing concomitant incontinence surgery were also included. Women with language barriers, neoplasms, autoimmune or hematological diseases, abnormal uterine bleeding, and ultrasound uterine/ovarian findings were excluded.
All participants signed a consent form, the study was approved by the Ethics Committee of our hospital. Follow-up visits were made at 12, 36, and 60 months. In all the visits gynecological examination, POP-Q, and ultrasound were performed and validated QoL surveys were answered: **the Epidemiology of Prolapse and Incontinence Questionnaire (EPIQ**) and **the Pelvic Organ Prolapse/Incontinence Sexual Function Questionnaire (PISQ-12)**.
Two surgery groups were designated by computer-generated randomized table:

1. **Vaginal hysterectomy with anterior vaginal colporrhaphy and perineal body repair with Vicryl stitch**

2. **Hysteropexy with TFS® mesh to arcus tendinous, parametrium and uterosacral, anterior vaginal colporrhaphy, and perineal body repair with Vicryl stitch**.

Posterior vaginal colporrhaphy was performed when appropriate, and suburethral/TVT mesh was applied to correct stress urinary incontinence if appropriate.
We do not show in this abstract the ultrasound results.
The primary outcome was evaluating the quality of life after POP surgery at 12, 36, and 60 months regarding changes in bladder and bowel function and sexual impacts.
We used the X2 test, Fisher's Exact Test and independent t-test, Cochran's Q test, multivariant test and logistic regression as appropriate, and data were analyzed with the statistical method IMB SPSS Statistics version 26.
A final total of 38 patients were included in the hysteropexy group and 31 in the vaginal hysterectomy group in the trial. Of these, we analyzed a total of 51 patients who completed all the EPIQ questionnaire . Only 27 patients who had been sexually active were eligible to answer the PISQ-12.
The comparison between surgical techniques reduced the power of the analysis because the groups were small, so the two groups were taken as a whole.
In 2015 we stopped the trial due to lack of supply of TFS® by the distributor.
We continue with the follow-up of the patients up to 5 years as designed

Results and interpretation

Table 1 shows the demographic characteristics of the study patients. Both groups are comparable and homogenous. There are no differences between these groups with respect to the basic variables

EPIQ	Hysteropexy n=30	Hysterectomy n=21	p value
Age, mean (SD),y	62.8 (8.1)	61.95 (9.45)	0.733[a]
Age first delivery	24.97 (3.77)	26.19 (4.77)	0.312[a]
BMI, mean (SD)	26.66 (3.28)	28.69 (5.64)	0.148[a]
Obesity	7 (25)	3 (15.8)	0.718[b]
Postmenopausal nº/total (%)	25 (83.3)	15 (71.4)	0.327[b]
Current smoker nº/total (%)	1 (3.3)	1 (4.8)	1.000[b]
Stress urinary Incontinence nº/total (%)	10 (33.3)	4 (19)	0.261[c]
Presurgical POPQ-Stage 2 3	15 (50) 15 (50)	9 (42.9) 12 (57.1)	0.615[c]
PISQ-12	**Hysteropexy n=14**	**Hysterectomy n=13**	**p value**
Age, mean (SD),y	60 (9.34)	56.31 (6.11)	0.240[a]
Age first delivery	24.71 (3.56)	25.77 (5.6)	0.563[a]
BMI, mean (SD)	26,42 (2.35)	29.05 (6.95)	0.194[a]
Obesity	2 (15.4)	3 (25)	0.645[b]
Postmenopausal nº/total (%)	10 (71.4)	8 (61.5)	0.695[b]
Current smoker nº/total (%)	0 (0.0)	1 (7.7)	0.481[b]
Stress urinary Incontinence nº/total (%)	5 (35.7)	3 (23.1)	0.678[b]
Presurgical POPQ-Stage 2 3	9 (64.3) 5 (35.7)	7 (53.8) 6 (46.2)	0.581[c]

a T-Test b Fisher's Exact Test c Chi-square test

Table 2 shows the results obtained respect to the EPIQ and PISQ-12 questionnaires

EPIQ Item, n (%)		0 m	12 m	36 m	60 m	p value
21. Do you rush to the bathroom so that you will not have leakage of urine? Yes		33 (65)	22 (43)	23 (45)	18 (25)	0.002[a]
23. Do you awaken during your normal sleeping hours to urinate? Yes		35 (69)	27 (53)	19 (37)	14(27)	0.000[a]
25. Do you experience urine leakage related to a feeling of urgency? Yes		23 (47)	12 (24)	16 (33)	11 (22)	0.003[a]
26. Do you experience urine leakage related to activity, coughing, or sneezing? Yes		24 (49)	10 (20)	12 (24)	12 (24)	0.000[a]
28. Do you experience difficulty emptying your bladder? Yes		33 (63)	11 (22)	8 (16)	8 (16)	0.000[a]
29. Do you experience pain or discomfort in your lower abdomen or your genital area? Yes		16 (32)	6 (12)	4 (8)	3 (6)	0.000[a]
39. Do you ever have difficulty having a bowel movement? Yes		24 (50)	27 (56)	25 (52)	20 (42)	0.335[a]
42. Do you lose gas from your rectum that is beyond your control? Yes		24 (48)	23 (46)	22 (44)	17 (34)	0.226[a]
43. Do you lose stool beyond your control if your stool is loose or liquid? Yes		6 (12)	5 (10)	3 (6)	4 (8)	0.644[a]
44. Do you lose well-formed stool beyond your control? Yes		2(4)	1 (2)	2 (4)	2 (4)	0.733[a]
PISQ-12		**0 m**	**12 m**	**36 m**	**60 m**	**p value**
Total mean, SD		30.56 (8.1)	33.3 (9.6)	35.37 (7.1)	35.33 (6.3)	0.006[b]
Behavioral domain		10 (3.24)	10 (4.11)	10 (3.56)	9.59 (4.33)	0.838[b]
Emotive domain		13.48 (5.64)	15.85 (5.02)	17.85 (3.910	18.15 (2.10)	<0.000[b]
Partner-related domain		7.07 (2.38)	7.44 (2.70)	7.52 (2.7)	7.59 (1.88)	0.721[b]
Total mean, SD	BMI > 30 BMI < 30	26 (5.91) 32.15 (8.20)	35.29 (8.86) 32.60 (9.94)	39.57 (3.78) 33.90 (7.44)	38.29 (4.75) 34.30 (6.5)	0.001[c]
Total mean, SD	POPQ stage 2 POPQ stage 3	33.38 (6.80) 26.45 (8.23)	35.94 (7.04) 29.45 (11.6)	36.31 (7.44) 34.00 (6.61)	36.13 (5.65) 34.18 (7.19)	>0.05[b]
Total mean, SD	Postmenopausal No menopausal	29.33 (8.69) 33.00 (6.30)	32 (11.02) 35.89 (5.34)	34.39 (7.68) 37.33 (5.56)	35.33 (6.11) 35.33 (6.94)	>0.05[b]
Total mean, SD	Stress urinary incontinence No Stress urinary incontinence	29.00 (6.25) 31.21 (8.76)	33.25 (5.06) 33.32(11.07)	34.75 (6.27) 35.63 (7.54)	33.00 (5.60) 36.32 (6.41)	>0.05[b]

[a] Cochran Test [b] ANOVA [c] Multivariate test Exact statistic [d] T-Test

In our study, over the years, were significantly improved in EPIQ questionnaire:

- **urinary urgency (p value 0.002)**
- **urinary urgency incontinence (p value 0.003)**
- **nocturia (p value 0.000)**
- **stress urinary incontinence (p value 0.000)**

Our results were statistically significant for **voiding dysfunction (p value 0.000)** and **improving the pain symptoms (p value 0.000**).

The changes in anal incontinence over time showed no significant differences.

Over time **the total PISQ 12 result (p value 0.006)** improved significantly The same goes for **the emotive domain (p value 0.000)** . Whereas behavioral and partner-related scores did not significantly change.
We have also studied the results of the PISQ-12 in relation to the demographic characteristics of our patients. **PISQ-12 result in obese women with BMI > 30 improved significantly (p value 0.000)** after surgery and has been maintained over time. It could be attributed to the improvement of emotional and physical domain.

Regarding the variables related to postmenopausal, POPQ stage and stress urinary incontinence, the results showed no significant differences

Conclusions

The trial results showed **a significant association between POP surgical approach techniques and improved QoL** considering:

- **urinary urgency**
- **urinary urgency incontinence**
- **nocturia**
- **stress urinary incontinence**
- **voiding dysfunction**
- **abdominal /genital area pain symptoms**
- **the sexual sphere (** especially in obese patients)

The changes in anal incontinence over time showed no significant differences