

COMPARISON BETWEEN VAGINAL AND LAPAROSCOPIC SACROCOLPOPEXY – CLINICAL OUTCOME.

Hypothesis / aims of study

Sacrocolpopexy (SCP) is the operation of choice for apical vault prolapse over a variety of vaginal interventions (1). It was initially described as an open abdominal procedure (2), followed by laparoscopic and robotic approaches with equal anatomical outcomes, but longer operating time (1). Further described is a combined approach, in which the mesh was attached to the apex of the vagina and posterior wall trans-vaginally, and then after closure of the vault, the sacral end of the mesh is attached by laparoscopy (3). Based on this, it seemed only natural to continue and explore the possibility of performing SCP exclusively trans-vaginally. The objective of the study is to present the technique of this new operation and compare it with laparoscopic SCP

Study design, materials and methods

A retrospective cohort study was undertaken to compare surgery results of 25 patients who underwent vaginal sacrocolpopexy (VSCP) and 18 patients who underwent laparoscopic sacrocolpopexy (LSCP) for either post hysterectomy vault prolapse or at the same session of hysterectomy for prolapse. VSCP was performed with the following method - after transversely incising the vaginal apex without opening the peritoneal cavity, the posterior peritoneum was bluntly dissected over the rectum, all the way to the sacrum. A 3*15 cm polypropylene mesh was then sutured to the posterior vaginal wall leaving the excess length of the mesh proximally. The rectum was displaced to the left by a swab on a stick inserted through the anus. The mesh was inverted into the dissected space, and attached to the anterior surface of the sacrum at the level of S3-5 under digital control with 2-3 endoscopic tackers (ProTack™ 5mm Fixation Device) (Figure 1). The tension is gauged by leaving a 1st degree apical prolapse to avoid excess tension and back pain. The vaginal cuff was closed and additional correction of anterior wall or TOT was made as indicated.

Results

Demographics characteristics were similar in both surgical approaches (age, parity, menopause length, HRT, previous POP surgery/hysterectomy). Clinical characteristics were similar in both surgical approaches (Table 1). There was no difference in concomitant hysterectomies in both groups, while more concomitant vaginal wall repairs were performed in VSCP group. The length of VSCP procedure was shorter than LSCP (Table 2).

The immediate complications following VSCP were post-operative anemia in one woman treated with blood transfusion and rectal lacerations in two patients, which was identified and sutured during the primary operation without further sequela. The immediate complications following LSCP were post-operative fever in one patient, which resolved by antibiotic treatment and ileus due to trocar site herniation in another patient which was successfully treated by repeated laparoscopy by repositioning the bowel and suturing the hernia sac.

In a follow-up of more than eight months, the recurrence of prolapse, de-novo urgency and mesh erosions rate were similar in both groups (Table 3).

Interpretation of results

Sacrocolpopexy has been proved the best surgical offer for apical vault prolapse. Yet, the need for laparotomy or laparoscopy makes it unfeasible from many surgeons. Introducing this novel vaginal technique will offer an alternative. The VSCP alternative allows pelvic floor reconstruction without the need of abdominal procedures.

We have demonstrated that the VSCP approach is significantly shorter than the LSCP, while equal in rates of immediate and late complications and equal rates of recurrence. To avoid rectal injury it is crucial to deviate the rectum to the left side.

Concluding message

We present a novel vaginal approach for sacrocolpopexy.

VSCP is a feasible and a reasonable alternative approach due to its safety and efficacy, which allows the completion of pelvic floor reconstruction without the need of combined abdominal-vaginal procedures.

Table 1. Pelvic floor characteristics.

		LSCP (n=18)	VSCP (n=25)	p
Main complaint :	prolapse	11 (61%)	14 (56%)	0.9
	urinary	0	2 (8%)	0.22
	Combined	39% (7)	9 (36%)	0.9
Urinary complaints:	USI	7 (38.9%)	10 (40.0%)	0.8
	Occult USI	3 (16.7%)	6 (24.0%)	0.5
	OAB	1 (5.6%)	0	0.45
	Mixed UI	1 (5.6%)	3 (12.0%)	0.25
Cystocele ≥ grade 2	9 (50%)	20 (80%)	0.08	
Rectocele ≥ grade 2	7 (39%)	17 (68%)	0.11	
Uterine/vault prolapse ≥ grade 2	18 (100%)	21 (84%)	0.13	

*Data presented as mean ± SD or number (percentage) as appropriate.

POP – pelvic organ prolapse, USI – Urinary stress incontinence, OAB – Overactive bladder, UI – urinary incontinence, U/S - Ultrasound.

Table 2. Operative and postoperative data.

	LSCP (n=18)	VSCP (n=25)	<i>p</i>
Hysterectomy*	11/12 (92%)	20/15 (75%)	0.37
Vaginal Hysterectomy	0	20/15 (60%)	< 0.001
TLH	12/2 (17%)	0	0.13
Laparoscopic SCH	9/12 (75%)	0	< 0.001
Anterior repair	1 (5.5%)	17 (68%)	< 0.001
Posterior repair	1 (5.5%)	10 (40%)	< 0.001
MUS	12 (66%)	19 (76%)	0.5
BSO / USO	8 (44%)	5 (20%)	0.17
Surgery length, minutes	104 ± 29	84 ± 27	0.014
Postoperative hospitalization, days	3.7 ± 1.5	4.0 ± 0.9	0.07
Post-operative fever	1 (5.6%)	0	0.24
Delta of pre and post-operative HG, gr/dl	-1.5 ± 0.6	-1.8 ± 0.9	0.35
Blood transfusion	0	1 (4%)	0.4
Trocar site herniation	1 (5.6%)	0	0.24
Rectal laceration	0	2 (8%)	0.52

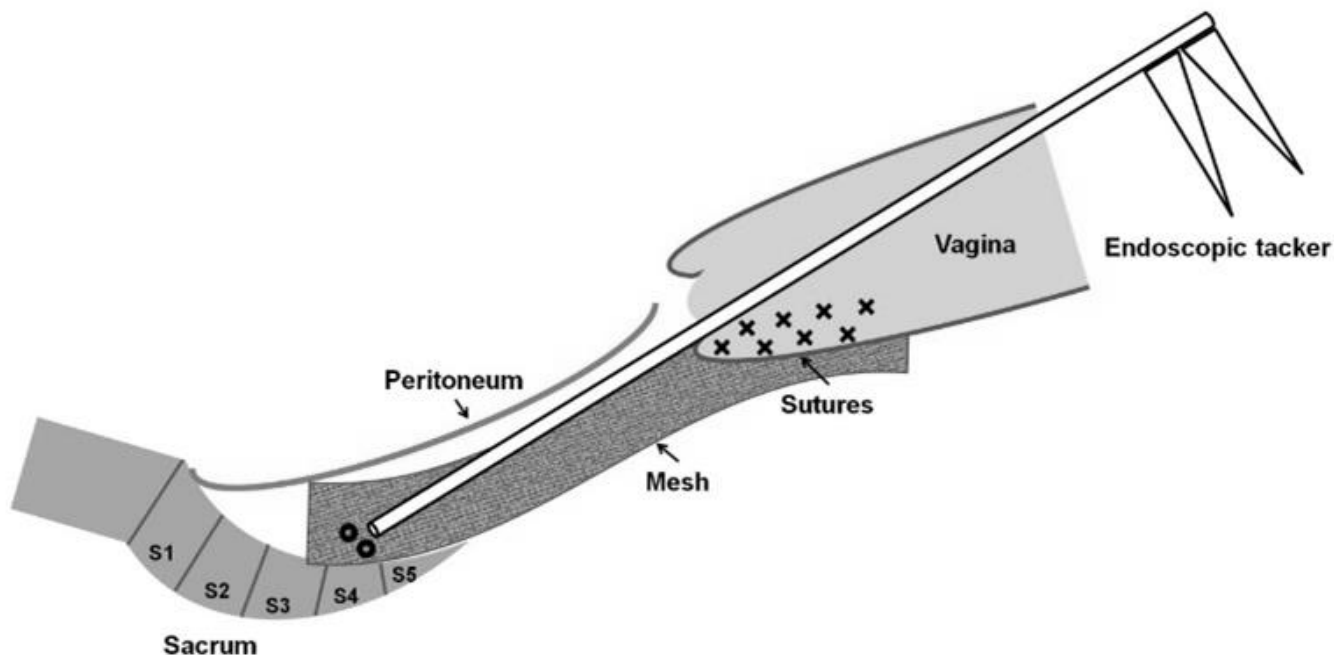
*Data presented as mean ± SD or number (percentage) as appropriate.
 TLH – Total laparoscopic hysterectomy, SCH – Supracervical hysterectomy, BSO – Bi-salpingo-oophorectomy, USO – Uni-salpingo-oophorectomy, HG – Hemoglobin.

Table 3. Follow-up: success and late complications.

	LSCP (n=18)	VSCP (n=25)	<i>p</i>
Follow-up, months*	10.8 ± 6.7	8.5 ± 4.3	0.3
Prolapse recurrence:			
apical	0	1 (4%)	0.83
non apical	4 (22.2%)	3 (12.0%)	0.41
De novo urgency	1 (5.6%)	3 (12.0%)	0.48
Mesh erosion	0	2 (8%)	0.52

*Data presented as mean ± SD or number (percentage) as appropriate.

Figure 1: .



References

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Disclosures

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