

Both MISCP and SSLF demonstrate comparable high success rates (>90%) for apical prolapse, with SSLF offering potential advantages in operative time and blood loss, though associated with a higher rate of de novo urge incontinence.

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A Multicenter Real-World Data Comparison of Minimally Invasive Sacrocolpo(hystero)pexy and Sacrospinous Ligament Fixation in Apical Prolapse

HYPOTHESIS / AIMS OF STUDY

To compare minimally invasive sacrocolpo(hystero)pexy (**MISCP**) and Sacrospinous Ligament Fixation (**SSLF**) in terms of success, complications, and perioperative outcomes.

STUDY DESIGN, MATERIALS AND METHODS

Multicenter, retrospective study

303 patients reviewed: Baden–Walker grade 3 or 4 apical POP

5 tertiary referral centers

207 patients included: underwent MISCP (RSC or LSC) or SSLF

Failure:

The occurrence of Baden-Walker grade 2 or greater prolapse, The requirement for reoperation or pessary insertion, and the persistence of bulging symptoms.

- Complications were classified according to the **Clavien–Dindo** system.
- Surgical success and the development of de novo urinary incontinence were evaluated during follow-up.

Table-1: Baseline Characteristics of the patients

	Minimally Invasive Sacrocolpo (hystero)pexy (MISCP) N:132 (63.7%)	Sacrospinous Ligament Fixation (SSLF) N:75 (36.3%)	P value
Age; median IQR	62 (54-70)	59 (51-65)	0.001*
BMI; median IQR,	26 (24-30)	29 (26-31)	0.053*
ASA score, n (%)			0.001**
• ASA-1	46 (34.8%)	19 (25.3%)	
• ASA-2	69 (52.3%)	31 (41.4%)	
• ASA-3	17 (12.9%)	21 (28%)	
• ASA-4	0	4 (5.3%)	
Diabetes Mellitus, n (%)	30 (22.7%)	14 (18.7%)	0.689**
Pulmonary disease, n (%)	14 (10.6%)	13 (17.3%)	0.356**
Cardiovascular Disease, n (%)	23 (17.4%)	13 (17.3%)	0.894**
Hypertension, n (%)	65 (49.2%)	35 (46.7%)	
Smoking status, n (%)			0.156**
• Never	108 (81.8%)	62 (82.7%)	
• Ex-smoker	11 (8.3%)	11 (14.7%)	
• Active smoker	7 (5.3%)	1 (1.3%)	
• NA	6 (4.5%)	1 (1.3%)	
Parity; median IQR	3 (2-3)	3 (2-3)	0.002*
Symptom duration; months, median IQR	24 (14-48)	24 (12-36)	0.005*
Previous Hysterectomy, n (%)	34 (25.8%)	42 (56%)	<0.001**
Previous MUS, n (%)	7 (5.3%)	18 (24%)	<0.001**
Previous prolapse surgery, n (%)	26 (19.7%)	22 (29.3%)	0.114**

*mann-whitney U **chi-square

Table-2. Perioperative clinical characteristics of the patients

	Minimally Invasive Sacrocolpo (hystero)pexy (MISCP) N:132 (63.7%)	Sacrospinous Ligament Fixation (SSLF) N:75	P value
Stress Incontinence, n (%)	40 (30.5%)	15 (20%)	0.1*
Concurrent MUS, n (%)	24 (18.2%)	11 (14.7%)	0.517*
Concurrent Hysterectomy, n (%)	35 (26.5%)	22 (29.3%)	0.663*
Operation time (minutes); median IQR	100 (90-120)	90 (60-100)	<0.001**
Hospital stay (days); median IQR	2 (2-4)	2 (1-2)	<0.001**
De Novo Incontinence, n(%)			0.004*
• None	126 (95.5%)	65 (86.7%)	
• Stress	4 (3%)	1 (1.3%)	
• Urge	2 (1.5%)	9 (12%)	
Follow-up Time (month); median IQR	12 (9-15)	12 (12-12)	0.446**
Success, n (%)	120 (90.9%)	70 (93.3%)	0.541*

*Chi-Square **mann-whitney U

Table-3: Complications

	Minimally Invasive Sacrocolpo (hystero)pexy (MISCP) N:132 (63.7%)	Sacrospinous Ligament Fixation (SSLF) N:75 (36.3%)	P value
Estimated Blood Loss (ml); median IQR	100 (55-120)	50 (50-100)	<0.001*
Clavien-Dindo Grade-1, n (%)			0.212**
• Pain requiring morphine	4 (3%)	6 (8%)	
• Fever	1 (0.8%)	0	
Clavien-Dindo Grade-2, n (%)			0.916**
• Intraop blood transfusion	1 (0.8%)	1 (1.3%)	
• Postop blood transfusion	2 (1.5%)	2 (2.6%)	
• Urinary tract infection	2 (1.5%)	1 (1.3%)	
Clavien-Dindo Grade-3, n (%)			0.546**
• Bladder injury	1 (0.8%)	1 (1.3%)	
• Bowel/rectal injury	1 (0.8%)	2 (2.6%)	
• Mesh complications	1 (0.8%)	0	
• Ureteral injury	2 (1.5%)	0	

*mann-whitney U **Chi-Square

Table-4: Subgroup analyses according to Age and BMI

A. Comparison between groups

	Minimally Invasive Sacrocolpo (hystero)pexy (MISCP) N:132 (63.7%)	Sacrospinous Ligament Fixation (SSLF) N:75 (36.3%)	P value
<65 years (n=150)	57/63 (90.5%)	45/49 (91.8%)	0.802*
≥65 years (n=153)	63/69 (91.3%)	25/26 (96.2%)	0.42*
BMI <30 (n=186)	77/85 (90.6%)	36/40 (90%)	0.917*
BMI ≥30 (n=117)	43/47 (91.5%)	34/35 (97.1%)	0.29*

*Chi-Square

B. Comparison within the group regarding age and BMI

	< 65 years (n=150)	≥ 65 years (n=153)	P value
MISCP	57/63 (90.5%)	63/69 (91.3%)	0.869*
SSLF	45/49 (91.8%)	25/26 (96.1%)	0.476*
	BMI <30 (n=186)	BMI ≥30 (n=117)	
MISCP	77/85 (90.6%)	43/47 (91.5%)	0.863*
SSLF	36/40 (90%)	34/35 (97.1%)	0.216*

*Chi-Square

CONCLUSION:

ASC is considered the gold standard.

Nevertheless, due to the extended duration of operation and hospitalization, and higher complication rates, MISCP techniques have emerged to overcome this issues.

Vaginal SSLF method offers comperable success rates in apical prolapse.

Both MISCP and SSLF can be performed in the treatment of apical prolapse. The selection of procedure must take into account the patient characteistics, complication rates, duration of the operation and hospital stay, blood loss, and the surgeon's expertise.