

Laparoscopic and Robotic Sling Sacral Hysteropexy for Uterine Prolapse

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Introduction

Suspension of the uterus from the sacral promontory with mesh (sacral hysteropexy) is an option for women with pelvic organ prolapse wishing to conserve their uterus. Our technique is novel in that a U-shaped mesh placed around the cervix and attached to the sacral promontory using either laparoscopic or robotic approach (Sling Sacral Hysteropexy; SSH)

Aims

To describe the SSH and report the objective and subjective outcomes.

Methodology

A clinical audit of patients who underwent laparoscopic or robotic SSH between January 2014 and December 2015 was undertaken. SSH involves reflecting the bladder off the anterior cervix and upper vagina and creating windows in each broad ligament. A U-shaped mesh is attached to the anterior cervix; the mesh straps are passed through the broad ligament windows and attached to the sacral promontory. A trans-vaginal repair and mid-urethral sling are performed as indicated. A surgical pelvic organ prolapse (S-POP) pessary was placed in the vagina at the completion of surgery. Subjects were assessed at baseline, 5 weeks, and 12 months. POP-Q examination was performed and Pelvic Floor Distress Inventory Questionnaire (PFDI-20), Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12) and (Euro-QoL Health Questionnaire (EQ-5D) were administered at baseline and 12 months. The primary outcome was 'success' defined as: POP-Q C point above the hymen; absence of vaginal bulge symptoms; an no repeat prolapse surgery or placement of a pessary. Secondary outcomes were patient's subjective improvement in bladder, bowel, sexual function, quality of life using validated questionnaires and complications.

Results

Ninety-three subjects (63 laparoscopic, 30 robotic) underwent SSH with 70 (75%) returning for follow-up. The mean age was 50.4 (range 31-70 years) and the median follow-up was 12 months. Of the 70 patients analyzed, 47 (67%) have completed the questionnaires during follow-up. Forty-seven patients (67%) had both anterior and posterior colporrhaphy, 4% and 23% had anterior and posterior colporrhaphy alone respectively. Six percent of patients did not require additional vaginal repair and 29% had a mid-urethral sling.

Results

Table 1: Objective outcomes of laparoscopic and robotic SSH

POP-Q	Preop		Postop		Change	
	Mean	Median	Mean	Median	Mean	Median
Aa	0.7	1	-2	-2	-2.8	-3
Ba	1	1	-2	-2	-3.2	-3
C	-1.1	-1	-7.9	-8	-7.1	-7.5
Ap	0.8	1	-2.6	-3	-3.4	-4
Bp	0.8	1	-2.6	-3	-3.5	-4
D	-2.6	-3	-7.9	-8	-5.6	-6

*Negative change in score indicates objective improvement in prolapse for the respective compartments

Table 2: Subjective outcomes of laparoscopic and robotic SSH

Questionnaires	Preop			Postop			Change in score		
	Mean	Median	Range	Mean	Median	Range	Mean	Median	Range
PFDI-20	87.9	90	20.8 to 170.8	35.6	25	0 to 143.8	-52.5	-59.4	-162.49 to 58.33
PISQ-12	29.5	33	0 to 43	28	36	0 to 45	-1.4	0	-40 to 38
EQ-5D	73	75	10 to 100	83.9	85	20 to 100	11.5	5	-55 to 75

*A reduction in PFDI-20 score indicates subjective improvement in prolapse, bowel and bladder symptoms.

** A positive change in PISQ-12 and EQ-5D score indicates subjective improvement in sexual function and quality of life.

There was no objective evidence of prolapse recurrence seen throughout the follow-up period (Table 1). Three patients complained of bulge sensation in the vagina but no prolapse seen on clinical examination, hence no further intervention was required. The overall surgical success was 96% (67 out of 70 patients) based on these composite outcomes. Subjective improvement in prolapse symptoms, bladder, bowel function and quality of life were observed but minimal changes seen in sexual function (table 2). There were no reported intraoperative complications or mesh exposure. Conservative management was offered to 10 patients who developed de Novo urinary incontinence during follow-up.

Conclusions

Laparoscopic and robotic sling sacral hysteropexy and surgical pelvic organ [prolapse pessary is a safe and effective procedure for management of uterovaginal prolapse.