

Laparoscopic and robotic sacrocervicopexy with subtotal hysterectomy for management of uterine prolapse

Disclosure statement:

None

Hypothesis / aims of study

Sacrocervicopexy (SCxP) has gained popularity as a surgical choice to address the apical support in younger women. The procedure is performed in a similar way to sacral colpopexy following a subtotal hysterectomy (STH). Several reports have demonstrated a lower risk of apical mesh exposure by retaining the cervix with STH and SCxP compared to a total hysterectomy with concomitant sacral colpopexy (1,2). The aim of this study was to describe the surgical technique for SCxP with STH, and report the objective and subjective outcomes.

Study design, materials and methods

A clinical audit of patients who underwent laparoscopic and robotic SCxP with STH between September 2014 and June 2016 was undertaken. STH was performed using a combination of Ligasure and monopolar loop diathermy to amputate the uterus at the cervico-uterine isthmus and power morcellation to remove the uterus. After reflecting the bladder and rectal off the vagina, a Y-shaped mesh was used. The arms of the mesh were attached to anterior and posterior vaginal walls, incorporating the cervix and anchored to the anterior longitudinal ligament of the sacral promontory with sutures. Trans-vaginal native tissue repair and mid-urethral sling were performed as required. A surgical pelvic organ pessary (S-POP) was placed in the vagina at the completion of surgery. Subjects were assessed at baseline, 4 weeks and 6 months. Pelvic Organ Prolapse Quantification (POP-Q) exam was performed and Pelvic Floor Distress Inventory Questionnaires (PFDI-20), Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaires (PISQ-12) and Euro-Qol Health Questionnaires (EQ-5D) were administered at baseline and at a median of 8 months. The primary outcome was "success" defined as: POP-Q C-point above the hymen; absence of vaginal bulge symptom; and no repeat prolapse surgery or placement of a vaginal pessary. Secondary outcomes were subjective improvement in bladder, bowel, sexual function, and quality of life using validated questionnaires and complications.

Results

Eighty subjects (62 laparoscopic, 18 robotic) underwent SCxP with STH with 66 (83%) returning for follow-up. Of the 66 patients that were analyzed, 46 (70%) have completed the questionnaires. The median age was 55 years (range 33-73) and median follow-up was 8 months (range 6-18). Fifteen patients (23%) had concurrent anterior and posterior colporrhaphy, 6% and 50% had anterior and posterior colporrhaphy alone respectively, and 21% did not require any vaginal repair. Forty-two percent of patients required a mid-urethral sling. The overall success was 94% based on the primary composite outcomes. There was no objective evidence of recurrence apical (cervical) prolapse throughout the follow-up period (Table 1). Four patients experienced vaginal bulge symptoms. One woman required an anterior and posterior colporrhaphy and the other an anterior colporrhaphy during follow-up. Neither participant had a trans-vaginal repair at the index surgery. Subjective improvements in prolapse symptoms, sexual function and quality of life were observed at follow-up compared to baseline (Table 2).

One subject experienced a mesh exposure in posterior fornix (inadvertent colpotomy occurred during surgery) requiring surgical excision, 2 subjects had intraoperative bladder injury successfully repaired at the time of surgery. Twelve patients developed de novo urinary incontinence, only one patient required mid-urethral sling for treatment of stress incontinence.

Table 1: Objective outcomes of laparoscopic & robotic SCxP with STH

POP-Q	Preop		Postop		Change	
	Mean	Median	Mean	Median	Mean	Median
Aa	0.9	1	-2.1	-2	-3.2	-3
Ba	1.1	1	-2.1	-2	-3.5	-3.5
C	-1.4	-2	-8.3	-9	-7.4	-7
Ap	0.4	0	-2.6	-3	-3.1	-3
Bp	0.5	0	-2.6	-3	-3.2	-3
D	-2.5	-3	-8.3	-9	-6.2	-6

Note: Negative change in score indicates objective improvement in prolapse for the respective compartment

Table 2: Subjective outcomes of laparoscopic & robotic SCxP with STH

Questionnaires	Preop		Postop		Change	
	Mean	Range	Mean	Range	Mean	Range
PFDI-20	116.3	4.16 to 232.3	35.7	0 to 139.6	-80.7	-222.9 to 53.1
PISQ-12	25	0 to 44	28	0 to 46	3	-30 to 34
EQ-5D	74	40 to 100	88	60 to 100	14	-20 to 50

Note:

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.

Interpretation of results

Women who underwent SCxP with STH have demonstrated improvement in both objective and subjective outcomes. This surgery has a short-term high success rate with minimal complications. The only case of mesh exposure was likely related to inadvertent colpotomy event during surgery and the 2 cases of bladder injury occurred during bladder dissection.

Conclusion

Laparoscopic or robotic sacrocervicopexy with subtotal hysterectomy is a safe and effective procedure for management of uterovaginal prolapse. This approach to the management of advanced uterovaginal prolapse takes advantage of the known higher success rate of post-hysterectomy vault prolapse when compared to trans-vaginal surgery.

References

1. Current Opinion in Obstetrics & Gynaecology 2014, 26:281-289
2. Neurology & Urodynamics 2015, 34:654-658