

OBJECTIVE FAILURE AFTER SITE-SPECIFIC POSTERIOR VAGINAL WALL REPAIR

Hypothesis / aims of study

Traditionally, posterior vaginal wall prolapse is believed to be derived from stretching and thinning of the vaginal wall. Pelvic organ prolapse surgery was thus performed by plication of the vaginal wall. However, gynaecologists have now split into two camps: those who still adhere to the traditional philosophy of plicating mid-vaginal bulges and those who now carry out site-specific repair. The believers of site-specific repair believe that pelvic organ prolapse is the result of specific defects of the attachment of the posterior vaginal fascia (lateral and central). [1] By performing site-specific pelvic organ prolapse surgery those specific defects are addressed and less objective failures are expected.

In this study, we tried to assess the failure of pelvic organ prolapse in patients undergoing posterior site-specific pelvic organ prolapse surgery.

Study design, materials and methods

This prospective cohort contains all patients undergoing site-specific posterior vaginal wall repair between April 2015 and September 2016. When performing posterior site-specific prolapse repair, a vertical incision in the mucosa was made. The defect in the posterior vaginal wall was identified. The posterior vaginal wall was mobilized and attached to the cervix and the sacrouterine ligaments or the remnants of sacrouterine ligaments after hysterectomy. If pre-operative physical examination showed apical prolapse as well, the uterus or vaginal vault is suspended at the discretion of the surgeon. In the presence of posterior wall pelvic organ prolapse we performed a site-specific anterior wall repair.

To assess the objective degree of pelvic organ prolapse, every patients is thoroughly examined using the POP-Q system before surgery and at follow-up at six weeks and 12 months after surgery. Primary outcome was objective failure in any compartment (Ba, Bp or C \geq 0), secondary outcome measures are objective failure of the posterior vaginal wall (Bp \geq 0), treatment for failure and complications during or after surgery.

Results

A total of 41 patients underwent site-specific prolapse surgery of the posterior wall (see table 1). Most patients underwent posterior vaginal wall prolapse surgery only.

Table 1: patient characteristics

Age (n=41)		57.0 (20.8-69.0)
Body mass Index (n=41)		26.2 (23.4-29.4)
Smoking	Yes	6 (15.4%)
(n=39)	No	18 (46.2%)
	Quit	15 (38.5%)
Previous hysterectomy	No	26 (63.4%)
(n=41)	Yes	15 (36.6%)
Concomitant prolapse surgery	No	22 (53.7%)
(n=41)*	Apical	11 (26.8%)
	Anterior	17 (41.5%)
Previous prolapse surgery	No	27 (65.9%)
(n=41)	Yes	14 (34.1%)

* nine patients had anterior, posterior and apical prolapse surgery combined

Median surgery time was 90 minutes (IQR 60-115 minutes). Most patients stayed in the hospital for only one night, four patients stayed for two nights. No serious complications occurred during or after surgery. One patient visited the emergency room because of blood loss, but no additional surgery was necessary. One patient had problems with bladder voiding, she was taught clean intermittent catheterisation with no long-term consequences. Two patients had a post-operative total vaginal length of 5 cm, but no coital complaints.

Table 1: Objective failure (Ba, C, Bp ≥ 0)

	All	Previous POP surgery *		Previous hysterectomy*	
		No	Yes NS	No	Yes NS
Follow-up 6 weeks	N=40	N=26	N=14	N=26	N=14
- Any site †	2 (5.0)	1 (3.9)	1 (7.1)	2 (7.7)	0 (0.0)
- Posterior comp	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
- Other comp	2 (5.0)	1 (3.9)	1 (7.1)	2 (7.7)	0 (0.0)
Follow-up 12 months**	N=24	N=14	N=10	N=16	N=8
- Any site †	8 (33.3)	2 (14.3)	6 (60.0)*	6 (37.5)	2 (25.0)
- Posterior comp	1 (4.2)	1 (7.1)	0 (0.0)	1 (6.25)	0 (0.0)
- Other comp	8 (33.3)	2 (14.3)	6 (60.0)	6 (37.5)	2 (25.0)
Additional surgery	3 (12.5)	1 (14.3)	2 (20.0)	2 (12.5)	1 (12.5)

POP = Pelvic Organ Prolapse; comp = compartment

† Any site = number of patients with objective failure in any compartment

* χ^2 or Fisher's exact test. Any site failure was seen more often if previous POP Surgery was performed ($p=0.032$).

** Or earlier if patients returned before follow-up at 12 months

A total of two patients (5.0%) had objective failure within six weeks after surgery, none of those occurred in the posterior vaginal wall. One year after surgery one third had objective failure, but only one failure in the posterior wall had occurred. Median time until failure was 3.5 months (1.0-7.5). Three patients had additional surgery because of failure, one of which had a third failure hereafter. Patients who had previous prolapse surgery had a higher change of failure at follow-up after 12 months ($p=0.032$), no other significant differences were observed between patients with previous pelvic organ prolapse surgery or previous hysterectomy.

Interpretation of results

In our study, we observed only one posterior vaginal wall failure. Eight patients had failure in another compartment. Comparing those results with results of traditional posterior colporrhaphy in literature, site-specific posterior vaginal wall repair shows a lower percentage of failure (4.2 percent versus 10-14 percent). No data are available on any site failure. Although literature is scarce, the percentage of patients requiring additional prolapse surgery is bigger in our study (12.5% versus 3%). [2]

Evidence is contradicting concerning the results of site-specific posterior vaginal wall prolapse surgery. Some studies show beneficial outcomes [3], but recent literature shows a higher percentage of objective failure compared with standard posterior colporrhaphy (11 percent compared with 4 percent). Although our study population was small, failure of standard colporrhaphy is comparable to our percentage of failure.

Concluding message

Posterior site-specific pelvic organ prolapse surgery shows a lower failure rate compared with standard posterior colporrhaphy in literature, but a higher percentage of people requiring additional pelvic organ prolapse surgery. Further research is needed to compare both methods with longer follow-up and to analyse subjective failure in further studies.

References

1. Porter, William E., et al. "The anatomic and functional outcomes of defect-specific rectocele repairs." American journal of obstetrics and gynecology 181.6 (1999): 1353-1359.
2. Maher C, Feiner B, Baessler K, Schmid C. Surgical management of pelvic organ prolapse in women. Cochrane Database of Systematic Reviews 2013, Issue 4. Art. No.: CD004014
3. Yoram Abramov, Sanjay Gandhi et al., Site-Specific Rectocele Repair Compared With Standard Posterior Colporrhaphy, obstetrics and gynecology, 2005 Feb;105(2):314-8.

Disclosures

Funding: Not applicable **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** Ethical review and approval not necessary because the data that is being collected and analysed is coincidental to our standard operating procedures with standard equipment and/or protocols. The data was collected and analysed expressly for the purpose of maintaining standards or identifying areas for improvement in the environment from which the data was obtained. The data being collected and analysed is not linked to individuals. **Helsinki:** Yes **Informed Consent:** No