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TOTAL REPLACEMENT OF THE ANTERIOR AND POSTERIOR ENDOPELVIC FASCIA WITH PORCINE DERMIS: LONG-TERM OUTCOME.

Hypothesis / aims of study

The high failure rate of anterior and posterior vaginal repairs is due to the use of the patient's compromised endopelvic fascia (EPF). The total replacement of the anterior or posterior pelvic fascia with a xenogeneic implant will significantly decrease recurrent vaginal prolapse.

Study design, materials and methods

Eighty-seven symptomatic patients with either anterior (41n) or posterior (46n) vaginal prolapse, Stage I (13n), Stage II (54n), or Stage III (20n) vaginal prolapse (POP-Q grading system) were enrolled. Subjects with prior vaginal repairs were excluded. Concomitant procedures included: hysterectomy (laparoscopic 13, vaginal 12), laparoscopic Burch (19), TVT (15), laparoscopic sacrocolpopexy (8), external anal sphincteroplasty (6), and laparoscopic apical vault repair (9). Pre-operative evaluation included: history and physical, urine culture, POP-Q staging at maximum Valsalva, cough stress test, 24 hour urolog, QOL testing (short UDI-6 and IIQ-7; protrusion, defecatory, voiding and sexual dysfunction questionnaires), and urodynamic testing. In the posterior vaginal repair a longitudinal mucosal incision was made from the fourchette to vaginal apex. The dissection extended laterally to the arcus tendineus levator ani (ATLA) and proximally to the ischial spines and utero-sacral ligaments at the vaginal apex. Delayed absorbable sutures attached the utero-sacral ligaments at the apex to the porcine dermis. Right and left interrupted sutures were placed through the ATLA and lateral sides of the dermis and distal sutures were placed through the perineal body and dermis. In the anterior vaginal repair a longitudinal mucosal incision started one centimeter below the urethral meatus and extended to the vaginal apex and laterally to the arcus tendineus fascial pelvis (ATFP). The porcine dermis was sutured in a similar fashion from the utero-sacral ligaments proximally and lateral sutures passed through the ATFP to the level of the mid urethra. Patient follow-up has extended from 9 to 45 months. Wilcoxon signed rank analysis test was used for POP-Q results and the McNemar test for the comparison of symptom proportions.

Results

Eighty-seven women, mean age 62 (range 61-79), parity 3 (range 0-6), postmenopausal 61, estrogen replacement 56, were enrolled. Follow-up intervals were short-term 9-12 months, mid-term 13-24 m., and long-term 25-45 m. Pre-operatively 100% of patients complained of protrusion; those with symptoms at short, mid, and long-term were 0, 7, and 11% for the posterior group and 13, 11, and 23% for the anterior group. Complaints of dyspareunia pre-operatively, short, mid, and long-term were 39, 7, 12, and 18%; constipation 48, 14, 11, and 16%; splinting 41, 23, 27, and 24%. Bp for the posterior vaginal group pre-op, short, mid, and long-term was 0.2, -2.8, -2.3, and -2.4 and Ap was -0.3, -2.8, -2.3, and -2.4. Ba for the anterior group was 0.3, -2.2, -2.4, and -2.6, while Aa was -0.4, -2.6, -2.4 and -2.8. The POP-Q Stages are seen in Table 1.

Table 1. POP-Q Stage for posterior and anterior vaginal wall before and after surgery.

	Pre-Op	9-12 M^	13-24 M	25-45 M
Posterior Wall	46N+	46N	40N	25N
Stage 0	0	38 (83)	29 (73)	17 (69)
Stage I	7 (15)*	8 (17)	8 (20)	5 (20)
Stage II	33 (72)	0	3 (7)	3 (11)
Stage III	6 (13)	0	`0	0
Anterior Wall	41N	41N	25N	7N
Stage 0	0	33 (81)	18 (72)	4 (57)
Stage I	6 (15)	3 (6)	6 (22)	1 (14)
Stage II	21 (51)	5 (13)	1 (6)	2 (29)
Stage III	14 (34)	0	0	0

^ - Months, * - Percentage, + - Number of patients

Interpretation of results

Replacement of the anterior and posterior endopelvic fascia with porcine dermis has been successful in re-establishing pelvic floor support out to 45 months. There was significant post-operative improvement in pressure symptoms, dyspareunia, and splinting. POP-Q grading and staging were significantly improved. No patient requested further surgery and there were no significant intra-operative or post-operative complications. No implants had to be removed.

Concluding message

The high recurrence of vaginal prolapse is very likely due to vault repairs with compromised in situ endopelvic fascia. The use of porcine dermis has resulted in a low number of non-symptomatic recurrences in short and long-term procedures. Porcine dermis appears equally effective in either the anterior or posterior vaginal wall and is an effective substitute for pelvic floor suspension and attachment.