

THE USE OF PORCINE DERMAL IMPLANT IN THE VAGINAL SURGICAL REPAIR OF STAGE II-IV ANTERIOR VAGINAL WALL PROLAPSE: FEASIBILITY, SHORT TERM COMPLICATIONS AND RESULTS

Aims of Study

Our objective was to determine whether the use of a porcine dermal implant could be feasible, safe and potentially useful in the vaginal surgical repair of stage II-IV anterior vaginal wall prolapse.

Methods

A pilot study of 45 consecutive, previously untreated patients with stage II-IV anterior vaginal wall prolapse undergoing anterior repair reinforced with a porcine dermal implant by the same surgeon was performed between December 2001 and February 2003. Preoperative assessment included a detailed history, physical examination, and standardized urodynamic evaluation. Patient characteristics are listed in Table 1. The anterior repair consisted of a series of 3 to 5 buttress, non-absorbable polyfilament 00 sutures of the pubocervical fascia of which the anterior one was taught between the opposite tendinous arch of the endopelvic fascia. The central portion of the pubocervical fascia was then reinforced with a 2 x 4 cm porcine dermal implant which was fixed with 4 non-absorbable sutures. Table 2 shows the associated surgical procedures. Clinical evaluation were performed at 1, 6 and 12 months following surgery and yearly thereafter. Median follow-up time was 6 months (range 1-12). For the case-control study 47 previously untreated patients (controls) undergoing vaginal anterior repair with non-absorbable sutures by the same surgeon were matched with the study group as closely as possible for clinical and surgical characteristics and distribution of comorbidities (Table 1 and 2). Comparison of patients characteristics, surgical parameters and outcome between the study and the control groups was performed using the Mann-Whitney *U* test and the frequency data were analysed using Fisher's exact test or χ^2 test as appropriate. A *P* value of <0.05 was judged statistically significant.

Results

Study group. The mean operative time for anterior repair was 19.2 minutes (SD 6.8). No significant intraoperative complications specifically related to the insertion of the porcine dermal implant occurred. Table 3 shows the complications occurred during the hospitalisation and follow-up periods, length of hospitalisation and of bladder drainage, and clinical results in this series. In 5 patients (11.1%) a lower urinary tract infection was diagnosed and appropriate antibiotics were administered. Bladder drainage was discontinued 3.8 days (SD 2.1) postoperatively. Five patients (11.1%) experienced urinary retention requiring self-catheterization following hospital discharge. All of these patients resumed spontaneous and adequate voiding within 2 weeks. The mean length of postoperative hospital stay was 4.2 days (SD 1.2). No case of infection, tissue erosion and/or foreign body reaction related to the porcine dermal implant was observed. A stage II support defect of the anterior vaginal wall, isolated or combination with other defects, were observed during the follow-up period in 1 out of 45 (2.2%) available patients.

Case-control study. There were no significant differences between the two groups in terms of operative time, complications occurred during the hospitalisation and follow-up periods, length of hospitalisation and of bladder drainage (Table 3). Whereas a trend toward a higher prevalence of recurrence/persistence of anterior vaginal wall prolapse was observed in the control as compared to the study group during the same follow-up period (1 out of 45 vs 6 out of 47, *P* = 0.062) (Table 3).

Conclusions

The use of a porcine dermal implant to reinforce the pubocervical fascia in case of anterior vaginal repair appears to be a feasible and promising procedure not involving any specific complication in the primary surgical treatment of stage II-IV anterior vaginal wall prolapse. A

randomized study with a longer follow-up period is needed to fully evaluate the usefulness of this approach.

Table 1.
Distribution of characteristics in cases and controls

Characteristics	Cases (n= 45)	Controls (n = 47)
Mean age (years) (SD)	62 (9.3)	65 (7.8)
Mean parity (SD)	2.1 (1.1)	1.9 (1.1)
Mean BMI (SD)	25.9 (5.3)	24.6 (4.8)
Mean anterior prolapse stage (SD)	2.8 (0.6)	2.6 (0.8)
Mean apical prolapse stage (SD)	2.2 (0.7)	2.7 (0.8)
Mean posterior prolapse stage (SD)	1.4 (0.8)	1.9 (0.7)
Chronic respiratory disease	5	3
Discal pathologies	1	0

Table 2.
Distribution of associated surgical procedure

Surgical procedure	Cases (n= 45)	Controls (n = 47)
TVT	21	22
Urethral bulking agents	6	9
Uratape	7	0
Hysterectomy	42	44
Sacrospinous fixation	35	40
Posterior repair	23	32

Table 3.
Intraoperative and postoperative parameters

Parameter	Cases (n= 45)	Controls (n = 47)	<i>P</i>
Mean operative time (SD)	19.2 (6.8)	16.8 (5.6)	> 0.5
Mean postoperative stay (SD)	4.2 (1.2)	4.7 (1.6)	> 0.5
Mean bladder drainage (days) (SD)	3.8 (1.4)	4.4 (1.7)	> 0.5
Urinary retention	5	6	> 0.5
Lower urinary tract infection	5	3	0.33
Recurrence/persistence of anterior prolapse	1	6	0.062