

CADAVERIC FASCIAL TRANSVAGINAL SLING (CATS): FIVE-YEAR PROSPECTIVE FOLLOW-UP

Hypothesis / aims of study

To present our ongoing experience with transvaginal sling using non-frozen cadaveric fascia lata and bone anchor fixation.

Study design, materials and methods

329 women, ages 23-90 (mean 64 years), had the CaTS procedure prior to January 2002. 265 of these patients (81%) had at least one-year follow-up (range 12-65 months, mean 31 months). All patients underwent transvaginal non-frozen cadaveric fascia lata sling for stress urinary incontinence (SUI). 161 of these patients (61%) underwent concurrent prolapse repair at the time of their sling procedure. Prolapse repair outcomes of this subset of patients were not considered in this report. Validated patient-administered incontinence questionnaires and SEAPI scores were entered into our prospective database at 6-month intervals and provided outcomes for this report. The 'A'natomy domain of the SEAPI score was removed so that the influence of prolapse repair on outcome was not considered. Paired t-tests were performed to determine the significance of improvement between the preoperative and postoperative domain scores as well as the total scores.

Results

Of the 265 valuable patients in this series, 95 (36%) were considered cured of their incontinence (no incontinent episodes postoperatively), 104 (39%) reported at least 50% improvement in their incontinence, and 67 (25%) were considered failures (less than 50% improvement in incontinence). When considering the predominant type of incontinence within the failure population, 35/265 (13%) had recurrent SUI, 18/265 (7%) had urge urinary incontinence (UUI), and in 14/265 (5%) the type of incontinence was uncertain. Therefore the cure/improved rate for SUI was 82-87%, depending on how many of the 'uncertain' group had recurrent SUI. 19% (13/67) of incontinence failures have occurred greater than 12 months postoperatively.

The preoperative and postoperative SEPI scores are seen in Table 1. There was at least a 50% reduction in the average domain scores in all categories except for 'Inhibition which indicates the degree of urgency and urge incontinence. The mean global SEPI score decreased from 6.09 preoperatively to 2.85 postoperatively. There was significant improvement in all domains and in the total score.

Table 1. Domain and total SEPI scores for CaTS patients (n = 265)

	S (stress)		E (emptying)		P (protection)		I (inhibition)		TOTALS	
	Pre (n)	Post (n)	Pre (n)	Post (n)	Pre (n)	Post (n)	Pre (n)	Post (n)	Pre	Post
0	0	109	148	260	1	116	91	124		
1	57	82	85	2	19	53	87	87		
2	137	53	25	1	112	50	77	46		
3	71	21	7	2	133	46	10	8		
Median	2	1	0	0	3	1	1	1	6	2
Mean	2.05	0.95	0.59	0.04	2.42	1.1	1.02	0.77	6.09	2.85
Mean % reduction	54%		93%		55%		25%		53%	
Paired T-test	p < 0.001		p < 0.001		p < 0.001		p < 0.001		p < 0.001	

75% (200/265) of patients stated that they were satisfied with the results of the procedure, and 73% (193/265) stated that they would have the surgery again.

87/265 (33%) patients had preoperative UUI. UUI resolved in 45/87 (52%). 178/265 (67%) patients had no preoperative UUI, with denovo UUI occurring in 12/178 (7%). There were two cases of prolonged urinary retention requiring intermittent catheterization. Osteitis pubis occurred in 2/265 (0.8%) patients, each was managed conservatively without sequelae. There were no cases of osteomyelitis.

Interpretation of results

The patient-reported subjective SUI cure/improved rate within this series (82-87%) is similar to previous reports for autologous pubovaginal slings and retropubic suspensions with intermediate-to-long-term follow-up (85-90%)¹. While poor results and concerns about the durability of frozen cadaveric allografts have been reported², our results using non-frozen, solvent-dehydrated fascia lata appear to have good durability with less than 20% of failures occurring after 12 months. There was statistically significant improvement in each domain of the SEPI score, with the least improvement, as might be expected, in the UUI domain. The de novo UUI rate (7%) in this series is consistent with other sling series.

The ability to perform the CaTS procedure completely transvaginally without suprapubic incision or blind retropubic needle/trocar passage reduces patient morbidity. We have experienced minimal complications of transvaginal pubic bone anchor fixation, and no osseous infections.

Concluding message

With maximum follow-up over 5 years (mean > 2.5 years), our patient-determined subjective incontinence results using non-frozen cadaveric fascia lata and pubic bone anchor fixation are encouraging. There is significant improvement in the overall SEPI score as well as each domain within this score. Patient satisfaction has been good and the morbidity has been minimal. We continue to follow these patients to obtain long-term results.

References

- 1) Female stress urinary incontinence clinical guidelines panel summary report on surgical management of female stress urinary incontinence. J Urol, 158:875, 1997.
- 2) Pubovaginal sling using cadaveric fascia and bone anchors: disappointing early results. J Urol, 165: 1605, 2001.