International Continence Society

August 22-26, 1999

29th Annual Meeting

Denver, Colorado USA

Category No.

Video Demonstration

Ref. No 451

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Title (type in CAPITAL LETTERS): SURGICAL MANAGEMENT OF RECURRENT STRESS URINARY INCONTINENCE: A 12-YEAR EXPERIENCE

ABSTRACT

AIMS OF STUDY:

The aims of the study were to identify:

1. The different surgical procedures used to manage Recurrent Stress Urinary Incontinence at the Urogynecology Unit, between 1984 and 1995.
2. The effectiveness of the procedures objectively and subjectively in the cure and failure rates.
3. The time to failure of each procedure performed.
4. The Least number of prior Continence Surgeries required to give the best cure rate for BurchRetropubic Urethropexy and the other procedure.
5. The risk factors for failure in our patient population for the different procedures.
6. The complications associated with the procedures that were performed.

METHODS:

A computerized search of all female patients operated on by the Senior Author for Genuine Stress Urinary Incontinence between January 1, 1984 and December 31, 1995 were obtained: From this list, we searched further for those who underwent Surgical Management for Recurrent Stress Urinary Incontinence in accordance with our definition.

The objective cure rate was evaluated with Urodynamic Studies and Physical Assessment while the subjective cure rate, was determined by history. Using our selection criteria (Table 111) the time to failure of each procedure needed to give the best cure rate were determined. In addition, the risk factors for failure for the three predominantly used surgical techniques and the complication associated with these procedures were obtained.

We defined Recurrent - SUI as, any recurrence or persistence of GSUI following any Prior Continence Surgery.

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The statistical methods used were the Chi-square at 95% confidence interval, Cox Proportional Hazard Model, with Logistic Regression and Survival Analysis. Unless otherwise stated, the diagnosis, methods, definitions and units conform to the standards proposed by the International Continence Society (ICS).

RESULTS:

528 female patients were identified to have undergone continence procedure for Genuine Stress Urinary Incontinence (GSUI) during the 12-year study period. Of this number, 330 patients (62.5%) had primary continence procedures and 198 patients (37.5%) had Surgical Management for Recurrent Stress Urinary Incontinence (Recurrent-SUI).

Four Surgical Techniques were identifies namely:
(1) The Combined Abdomino-Vaginal (2-Team) Marlex Sling (Group I, n=70).
(2) The Modified Urethral Marlex Sling (Group II, n=68).
(3) Burch Retropubic Colpourethropexy (Group III, n = 49).
(4) Suburethral Marlex Sling (GroupIV, n = 11).
118 patients represented the study population. The rest including Group IV were excluded.

Objective and Subjective cure rates 69% and 89%; 66% and 96%; 69and 88% were calculated for Groups I, II and III respectively. At 6 years Post occurred at 2 years post operatively. 77%, 73% and 38% cure rates (P = 0.320) were feasible with Group I- procedure following 1,2 and 3 prior continence surgeries respectively while 81%, 25%, and 0% cure rates (P =0.001) were obtained using the Burch Procedure (GroupIII), after 1, 2, and 3 prior continence surgeries respectively. This indicates that Burch Procedure should be avoided after one prior surgery where as the 2-Team Sling can be used after 3 or more prior continence procedures. Statistical significance could not be determined for Group II because it was not used in any patient with 3 prior surgeries. Age was a marginal risk factor for failure In-Group I. While no statistically significant risk factor was identified for Group II, the number of prior continence procedures was the major risk factor for failure in Group III when age, parity gravida, weight, hormone replacement therapy, number of prior incontinence procedures, Urethral closure pressure were covariables.

CONCLUSION:

Based on our data, sling procedures, and Burch Retropubic Colpourethropexy can be used to surgically manage recurrent-SUI using selection criteria such as ours. In our opinion, comparative prospective studies of different surgical techniques using a selection criteria with long term follow up of at least 10 years that include urodynamic studies may be the most ethical way to find the right operations for recurrent SUI.

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Table III

Our Selection Criteria of Patients for a Particular Surgical Procedure were:

1. **Group1) Combined Abdomino-Vaginal (2-Team) Sling Procedure**

(a) Patients with 2 or 3 prior Continence Procedures

(b) Patients with shortened, scared less mobile anterior vaginal wall due to previous multiple anterior repairs.

(c) Patients with previous retropubic Urethropexy procedure done with permanent suture, and Urethral Closure Pressure < 20cm H_2O.

2. **Group II - Modified Urethral Sling Procedure**

(a) Preferrably after one prior Continence Procedure and at the most two.

(b) Older patients, or those with mild to moderately shortened, scarred and less mobile anterior vaginal wall.

(c) Contraindicated in patients with any previous Retro- Pubic Urethropexy performed with a permanent suture.

(d) Patients with resting maximum Urethral Closure Pressure <20cm H20

3. **Group III - Burch Retropubic Colpo-Urethropexy**

(a) Failed prior continence procedures with bladder neck hypermobility and mobile anterior vaginal wall.

(b) The resting maximum Urethral Closure Pressure must be > 20cm H_2O

(c) This procedure is contraindicated in the multi-operated patient with shortened, Scarred, anterior vaginal wall.