

# Suburethral Sling Vs Standard Colporrhaphy With Suburethral Sling For Stress Urinary Incontinence Associated With Vaginal Prolapsed

T Behroozlak, S Hajebrahimi, Y Haghipour

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## Abstract

**Objective:** To evaluate clinical efficacies of Suburethral Sling (SUS) alone and Standard Colporrhaphy combined with TVT/TOT for stress urinary incontinence associated with vaginal prolapse **Materials and Method:** During the period of April 2005 to December 2009 ninety seven patients with SUI and POPs enrolled in this study. Forty two (43.3%) were delegated to group-1, Suburethral sling SUS (TOT or TVT) and 55(56.7%) in group-2, SUS with POPs (pelvic organ prolapsed) repair with standard technique without using mesh. Clinical and anatomical outcomes were investigated postoperatively. **Results:** The mean age of the patients was 46 (27- 78) years. Twenty four (57.1%) patients in the first group and 37(67.3%) in group 2 suffered from SUI; the remainder had mixed urinary incontinence (PV=0.2). The Mean Preoperative score of the ICIQ-UISF in the two groups were comparable (16.7and 18.2 respectively). An incontinence cure rate in six month follow up period of 89.7% was almost the same in both groups (PV=0.55). Only 4(9.5%) of group 1 and 6 (10.9%) of group 2 had de nova urgency after surgery. The anatomical cure rate in group 2 was 96.7%. Mean hospitalization time for both groups was 24 hours (PV=0.5).No significant difference in post operative complications was observed.**Conclusion:** Taking into account the low risk of morbidity and similar rate of clinical cure as well as better anatomical appearance, combined surgery can be recommended for stress urinary incontinence associated with vaginal prolapse.

## INTRODUCTION

Stress urinary incontinence is defined as leakage of urine with increasing intraabdominal pressure in the absence of detrusor contraction. This condition is quite common in women and can significantly reduce quality of life.

A variety of types of prolapse may be associated with SUI. Follow-up surgery for recurrence of prolapsed repair was reported in 29.2% of cases by Olsen et al<sup>1</sup>. Nevertheless some of the surgeons have advised the transvaginal use of the mesh to the anatomical repair of the POP<sup>6-7</sup> standard method of colporrhaphy in patients with strong native tissues where applicable<sup>8</sup>. An anatomical cure rate of greater than 90% was witnessed in early experiences with vaginal mesh procedures, but recent evidence indicates a slightly higher incidence of complications<sup>9</sup>. A primary concern in this area of medicine is: how effective is combined surgery using SUS and anatomical repair of POP in patients with simultaneous occurrence of SUI and POP. In this study we aim to compare surgical results in patients with SUS with SUS combined with standard repair of POPs.

## METHOD AND MATERIALS

Hospital charts of 98 patients with history of SUS with or without pelvic organ reconstructive surgery, from April 2005 to December 2009 were reviewed. All relevant information about personal characteristics, the type and severity of incontinence (regarding ICIQ-UISF), POPs, background disease, history of previous surgery, Urodynamics study, surgical techniques and duration of the surgery, cure and complications rates, hospitalization time, and follow up was recorded. All patients had stress urinary incontinence with symptomatic POPs. Patients with a history of recurrent pelvic surgery were excluded.

**Setting:** Female Urology Department of Imam Reza teaching hospital of Tabriz University of Medical Sciences.

Forty two (43.3%) were in SUS (TOT or TVT) and 55(56.7%) in group-2 SUS with pelvic organ reconstructive surgery (non-mesh incorporating techniques) which defined as group-1 and 2 respectively. The tension-free vaginal tape (TVT) procedure, were carried out using Ulmsten technique<sup>10</sup>, and trans-obturator tape sling (TOT) has been

## Suburethral Sling Vs Standard Colporrhaphy With Suburethral Sling For Stress Urinary Incontinence Associated With Vaginal Prolapsed

done by a by De Leval which reported in 2003<sup>11</sup>. The colporrhaphy procedure was performed with standard method without tapering of vaginal mucosa and mesh replacement after sling replacement in group-2. Reconstructive surgery of patient in group-1 with symptomatic POPs postponed to next time in order to evaluate the absolute effect of sling and to prevent co-existing complications. Urodynamics was not a routine workup after surgery and all patients followed up after six month just with ICIQ-UISF and physical exam. Standard definitions of ICS (international Continence Society) were followed in clinical diagnosis and evaluation of prolapsed care rate after surgery.

**Ethical Issues:** The Local committee of Tabriz University of Medical Sciences approved the proposal. All information has been kept completely confidential. Clinicaltrial.gov, ID: NCT01246271.

**Statistical Analysis:** descriptive and quantitative variables analyzed with Chi-square and independent T test in SPSS16 software respectively. Relative Risk (RR), Absolute Risk Difference (ARD) calculated by Medcalc.  $PV < 0.05$  and CI, 95% considered significant.

### RESULTS

Forty two patients (43.3%) had been fitted with SUS and 55(56.7%) with SUS with POPs repair. Mean age of the patients was 46 (27- 78) years. Twenty four (57.1%) patients in first group and 37(67.3%) in the second group suffered from SUI; the rest had mixed urinary incontinence how did not have adequate response to anticholinergics ( $PV=0.2$ ). Characteristic criteria for both groups is shown in table-1.

#### Figure 1

Table1: Characteristic criteria in each group

	SUS (N=42)	SUS + POP repair (N=55)	P value
Age (mean)	48.21 ±10.49	44.76±9.91	P=0.1
Gravid	3.52±1.53	4.33±2.26	P=0.15
Para	3.42±1.59	3.61±1.49	P=0.6
Hypermobility of Urethra	31(73.8%)	50(90.9%)	P=0.02
Positive Stress Test	26(61.9%)	29(52.7%)	P=0.2

Twenty participants (36.3%) in the second group and only 11(26%) of SUS groups reported severe incontinence according to chart recorded ICIQ-UI SF ( $PV=0.005$ ). However, the basic mean score of the questionnaire in two

groups was comparable (16.7 and 18.2 respectively). All out of ten (18.2% with grad >3) had vaginal prolaps grad 2-3 according ICS grading. The mean operation time for each groups were 25.6 and 64.6 min respectively. Intra-operative bleeding in second group was significantly more than first group. We experienced five (5.2%) bladder walls and no rectal perforation, all identified intra-operatively. The incontinence cure rate in the six month follow up period was 89.7% and was almost the same in both groups ( $PV=0.55$ ). Only 4(9.5%) of group 1 and 6 (10.9%) of group 2 had de nova urgency after surgery.

The prolapsed cure rate (which is defined as normal anatomic appearance) in group 2 was 96.7%. Mean hospitalization time for both groups was 24 hours ( $PV=0.5$ ). In all patients urethral catheters were removed 24h after operation. Mean ICIQ\_UISF were reduced in group one and two to 3.4 and 5.2 ( $PV=0.22$ ) respectively. Table-2 shows the distribution of intra and post operative complications. The relative risk of cure rate was 1.01 with a confidence interval of 95%, (0.88-1.16) and the absolute risk difference for cure was 1% with non significant CI.

#### Figure 2

Table2: Distribution of intra and post operative complications

Complication	SUS	SUS + POP repair	Total
Bladder wall perforation	2	3	5
Groin pain	1	-	1
Tape erosion	2	2	4
Retention and reoperation	1	-	1
De nova Urgency	4	6	10
Retropubic hematoma	1	-	1

### DISCUSSION

Both urinary incontinence and pelvic organ prolapse are common female physiological ailments. A variety of dysfunctions related to bowel and sexual organs are evidenced in pelvic organ prolapse and urinary incontinence. Concern about choice of adequate surgical options for the aforementioned problems tends to be linked to a lack of evidence regarding outcomes of these procedures. In this study we compared primary and secondary outcomes of single and/or combined surgery for SUI with pelvic organ prolapsed. RR for cure rate was 1 with 95%CI: 0.88-1.16. The average cure rate of 89.7% was similar to or better than

other reports<sup>12, 13, and 14</sup>. An important technical aspect of this study was maintaining the vaginal wall and well-supported pelvic floor with only one or two layers of sutures without using mesh.

Recent systematic reviews of surgical management of pelvic organ prolapsed showed higher rate of recurrency in standard anterior colporrhaphy as compared to polyglactin meshes (RR 1.39, 95% CI 1.02 to 1.90); however, secondary outcomes of morbidity or mortality rates were not appropriately reported. We believe that adequate pelvic floor repair and support can result in excellent anatomical and clinical outcomes because incontinence is related the appropriate function of all pelvic zones, which a multi-centric randomized control trials with well defined standard procedures would most likely produce reliable data. At present, though, there is insufficient data about various kinds of mesh<sup>15,16</sup>. We find this surprising considering that indication and contraindication of mesh repair should be standard in most patients with moderate POPs given that standard repair with vaginal mucosa residue is applicable. And mesh surgery can be reserve for recurrent or severe prolapse un-sexually active patients. The results of this study indicated that combined surgery for SUI and POPs yields similar cure rates for incontinence and a high anatomical cure rate. Finally the authors believe current study had some limitations; the group selection was not criteria or severity based, the study was retrospective and patients were not randomly allocated and the only blinded arm of this study was statistical analyzer.

## CONCLUSION

In view of the low risk of morbidity and similar rate of clinical and anatomical cure, combined surgery can be recommended for stress urinary incontinence related to vaginal prolapsed for patients who willing reconstructive surgery.

## References

1. Olsen AL, Smith VJ, Bergstrom JO, Colling JC, Clark AL. Epidemiology of surgically managed pelvic organ prolapse and urinary incontinence. *Obstet Gynecol.* 1997;89(4):501.
2. Thorp JM. Urinary incontinence in pregnancy and the puerperium: a prospective study. *AM J Obstet Gynecol.* 1999;181(2):266-73.

3. Burgio KL, Zyczynski H, Locher JL, Richter HE, Redden DT, Wright KC. Urinary incontinence in the 12-month postpartum period. *Obstet Gynecol.* 2003;102(6):1291.
4. Fritel X, Ringa V, Varnoux N, Fauconnier A, Piauxt S, Brilart G. Mode of delivery and severe stress incontinence. A cross-sectional study among 2625 perimenopausal women. *BJOG.* 2005;112(12):1646-51.
5. Keilman LJ. Urinary incontinence: basic evaluation and management in the primary care office. *Prim Care* 2005;32(3):699-722.
6. Iglesia CB, Fenner DE, Brubaker L. The use of mesh in gynecologic surgery. *Int Urogynecol. J Pelvic Floor Dysfunct.* 1997; 8: 105-15.
7. Julian M. The efficacy of Marlex mesh in the repair of severe, recurrent vaginal prolapse of the anterior midvaginal wall. *Am J Obstet Gynecol.* 1996; 175: 1472-75.
8. Ignjatovic I, Stojkovic I, Basic D, Medojevic N, Potic M. Optimal primary minimally invasive treatment for patients with stress urinary incontinence and symptomatic pelvic organ prolapse: tension free slings with colporrhaphy, or Prolift with the tension free midurethral sling? *Eur J Obstet Gynecol Reprod Biol.* 2010; 150(1): 97-101.
9. Takahashi S, Obinata D, Sakuma T, Nagane Y, Sato K, Mochida J, Ichinose T, Yamaguchi K. Tension-free vaginal mesh procedure for pelvic organ prolapse: a single-center experience of 310 cases with 1-year follow up. *Int J Urol.* 2010; 17(4): 353-
10. Ulmsten U, Falconer C, Johnson P, Jomaa M, Lanner L, Nilsson CG, et al. A multicenter study of tension-free vaginal tape (TVT) for surgical treatment of stress urinary incontinence. *Int J Urogynecol J Pelvic Floor Dysfunct* 1998;9:210-3.
11. de Leval J. Novel surgical technique for the treatment of female stress urinary incontinence: transobturator vaginal tape inside-out. *Eur Urol.* 2003; 44(6): 724-30.
12. Ayhan A, Dogan NU, Guven S, Guler OT, Boynukalin FK, Salman MC. Clinical outcome of transobturator tape concomitant with vaginal hysterectomy plus anterior posterior colporrhaphy. *Arch Gynecol Obstet.* 2009; 280(3): 375-80.
13. Zullo MA, Plotti F, Calcagno M, Marullo E, Palaia I, Bellati F, et al. One-year follow-up of tension-free vaginal tape (TVT) and trans-obturator suburethral tape from inside to outside (TVT-O) for surgical treatment of female stress urinary incontinence: a prospective randomised trial. *Eur Urol.* 2007; 51(5): 1376-84.
14. Carey M, Higgs P, Goh J, Lim J, Leong A, Krause H, et al. Vaginal repair with mesh versus colporrhaphy for prolapse: a randomised controlled trial. *BJOG.* 2009; 116(10): 1380-6.
15. Sergent F, Zanati J, Bisson V, Desilles N, Resch B, Marpeau L. Perioperative course and medium-term outcome of the transobturator and infracoccygeal hammock for posthysterectomy vaginal vault prolapse. *Int J Gynaecol Obstet.* 2010; 109(2): 131-5.
16. Maher C, Baessler K, Glazener CMA, Adams EJ, Hagen S. Surgical management of pelvic organ prolapse in women: a short version Cochrane review. *Neurourol Urodyn.* 2008; 27(1): 3-12

**Author Information**

**Tahereh Behroozlak, MD**

Obstetrics& Gynecology Department, Koasar Hospital

**Sakineh Hajebrahimi, MD**

Urology Department, Imam Reza Hospital

**Yoosef Haghypour, MD**

Iranian Center for Evidence Based Medicine