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# TENSION FREE VAGINAL TAPE PROCEDURE IN NEUROGENIC PATIENTS FOR TREATMENT OF INTRINSIC SPHINCTER DEFICIENCY

**Aims of Study**

Intrinsic sphincter deficiency (ISD) due to neurogenic lesion is a difficult condition to solve. Treatment options are bulking agents, artificial sphincter and open surgery sling procedure. But high late failure are reported in literature. Tension free Vaginal Tape (TVT) procedure is an increasingly popular option for treating female stress urinary incontinence (SUI) with a cure rate ranging from 80% to 90%. This procedure is well-accepted, minimally invasive, and causes few intra- and post-operative complications. For these reasons this procedure is very attractive to use in neurologic patients despite the high risk of infection, foreign body reaction and erosion. These are common problems for all prosthesis surgery in neurogenic patients. On the other hand an important aspect is the frequent association of detrusor overactivity with ISD. The purpose of this study was to evaluate efficacy and tolerability of the TVT procedure in neuropathic female affected by stress incontinence due to ISD.

**Methods**

From March 1998 to December 2002, 14 women with mean age 53,5 years (range 31-73) with stress urinary incontinence due to neurophatic bladder dysfunction. The group consisted of 9 women with spinal cord injuries, 3 with multiple sclerosis, and 2 with peripheral neuropathics due to diabetics. 11 out of 14 patients drainaged the bladder by clean intermittent self catheterization 4-5 daily associated with various dosage of anticholinergic medication and previously 5 of them had been submitted to endoscopic injection with Botulinum toxin-A. The remaining 3 had underactive detrusor, but they emptied their bladder spontaneously. All patients underwent videouroynamic (or urodynamic) studies pre TVT procedure and post treatment at 3 and 12 months. Bladder diary was cecked pre-treatment and during follow up. We excluded patients who had detrusor overactivity not suppressed by anticholinergic drugs. In all patients we detected ISD. We treated patients with detrusor paralysis Botulinum toxin-A induced. All patients underwent to TVT procedure performed as described by U. Ulmsten. The operation was carried out under local anesthesia. The mean operating time was 28 minutes (range 21-34). The urethral catheter was left in situ postoperatively for 2 days. The women were discharged from 4 to 7 days after the surgical procedure. The period of follow-up ranged from 3 to 45 months.

**Results**

The intraoperative cough test showed in all patients immediate correction of stress leakage after TVT procedure. Of the 14 patients analysed, 12 out of 14 (85%) were found to be completely dry 3 years after surgery. 5 patients are scheduled for re-injection of detrusor with Botulinum toxin-A. One patient was significantly improved with a reduction of pad usage per 24 hours. While in one patient with pre-TVT spontaneous voiding, the vaginal tape was transected transvaginally 30 days after the procedure for complete urine retention. We obtained so a balanced micturition and she was completely dry. Post-operative videourodynamic did not show a significant modification of maximum urethral closure pressure, but in 12 out of 14 they had no leakage with ALPP > 120cmH2O. Bladder diary data confirmed that 12 out 14 are completely dry. 11 out of 14 in self-catheterization regimen did not refer any problem with insertion of the catheter.

**Conclusions**

In accordance with many authors we can affirm that the TVT sling technique is easy to use, the time for surgery is relatively short, and the procedure is free of complications in women using self catheterisation too. In patients with detrusor overactivity our data suggest that TVT not seems to provoke activation of the voiding reflex by stimulation of the afferent receptors in the proximal urethra. However other author reported in neurophatic patients a slightly higher incidence of new onset detrusor overactivity than in non-neuropathics patients, so it is important to determine the possible influence of TVT regarding detrusor overactivity evaluating a long term trial. Foreign body reaction, infection and erosion were not observed

in our experience. Efficacy and tolerability seems to indicate TVT procedure as first surgical indication in neurogenic patients with ISD before more invasive procedures or artificial sphincter implantation.