

## THE TREATMENT OF MALE STRESS INCONTINENCE IN NEUROPATHIC BLADDERS WITH POLYDIMETHYLSILOXANE

### Aims of Study

To evaluate the safety and efficacy of polydimethylsiloxane in the treatment of male stress incontinence secondary to the neuropathic bladder.

### Methods

A retrospective analysis was performed of the case records of 13 patients. They were treated for stress incontinence with polydimethylsiloxane secondary to neuropathic bladders. The operations were performed between September 1997 and July 2001 by a single surgeon. Twelve (12) patients had a spinal cord injury (7 thoracic, 5 lumbar) while one (1) developed stress incontinence after spinal surgery. The pre-operative investigations included history, physical examination and Video-Urodynamics. The patients were using either a conven sheath or pads to keep themselves dry. All patients had uro-dynamically proven stress incontinence. Four (4) had acontractile bladders while another two (2) showed associated reflux. Eight (8) patients were using a suprapubic catheter as the form of bladder drainage. Four (4) were performing intermittent catheterization and one (1) had a Sacral Anterior Root Stimulator implanted for emptying the bladder.

After a preliminary cysto-urethroscopy 2.5 ml -5.0 ml (average 4.0 ml) of polydimethylsiloxane was injected in the region of the external sphincter between 2 and 5 O' clock on the left and 7 and 10 O'clock on the right side. The bladder was drained with a size 10F catheter post operatively for those patients on intermittent catheterization. No immediate or late complications were noted with the procedure.

We defined cure as cessation of usage of pads or conven sheath along with evidence of no leakage on VCMG. Improvement was defined as decrease in the number of pads used but presence of incontinence on VCMG.

### Results

The follow-up ranges from 8 to 54 months (mean 32.7). 9 patients had a single injection, 3 had 2 and 1 had 3 injections. 2.5-5.0 mls.(mean 4.0 mls.) of polydimethylsiloxane was injected sub-mucosally.

Four patients (30.77%) reported complete success becoming continent without leakage between voids or on transferring. This was confirmed on VCMG. 3 patients (23.3%) reported some improvement with >50% decrease in the use of pads. However on the VCMG evidence of stress incontinence was present. The procedure failed in 6 patients (46.15%) with neither subjective improvement nor any change on the VCMG. No immediate or late complications were noted with the procedure.

On further analysis all 4 patients who became dry had only a single injection. On the other hand of the 4 patients with multiple injections 3 did not draw any benefit while one reported some improvement. Moreover of the 4 dry patients 3 (75%) had a suprapubic catheter for draining bladder while 1 was performing self-intermittent catheterization.

There was neither any improvement nor deterioration after the initial pattern had been established.

### Conclusions

The use of polydimethylsiloxane is a safe, minimally invasive and quite effective treatment for stress incontinence in males with neuropathic bladders. We conclude that with a Urodynamically proven success rate of 31% that increases to 54% when we include the patients who had moderate improvement from the procedure. It can be recommended as the first line of treatment for the patients with stress incontinence secondary to neuropathic bladders. We think it is justified in this patient group especially considering the minimal morbidity associated with the procedure and when the alternatives like Artificial Urinary Sphincter or urinary diversion can add considerable morbidity to their pre-existing problems.

We were not able to attribute the failure of the procedure to either the level of the injury or the method of bladder drainage. Although 3 of the 4 patients in the successful group had a suprapubic catheter as a method of bladder drainage but the numbers are too small to draw any definite conclusions. Moreover multiple injections do not improve the success rate. This is in agreement with the similar observation by other investigators (1).

We think that ours is the first series evaluating the effectiveness of the polydimethylsiloxane in the treatment of male stress incontinence secondary to neuropathic bladders. There are a number of reports in the literature for its use in male stress incontinence with a success rate from 26-100% (2,3), but most of the patients in these series had post-prostatectomy incontinence.

We feel that long term study with greater number of patients is required to evaluate the effectiveness of polydimethylsiloxane in this patient group.

### **References**

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