

## THE EFFECTIVENESS OF A MODIFIED TRANSURETHRAL COLLAGEN INJECTION TECHNIQUE FOR THE MANAGEMENT OF STRESS URINARY INCONTINENCE.

### Hypothesis / aims of study

To report the outcome of a modified technique of transurethral collagen injection.

### Study design, materials and methods

Using CPT diagnosis codes, patients who underwent transurethral collagen injection from January 2004 to December 2006 were identified. Hospital and office records were reviewed on all subjects. Detailed clinical information on initial presentation, preoperative studies, surgical management and clinical outcomes including preoperative and postoperative short forms of the Incontinence Impact Questionnaire (IIQ-7) and the Urogenital Distress Inventory (UDI-6) was extracted from the records. Collagen injections were performed under IV sedation using a 25 degree cystoscope through a 22 f cystoscopic array. Collagen was injected at 2–3 sites. Rather than injecting just at the bladder neck, injections were started at the distal urethra and extended proximally to the bladder neck. Collagen was injected until the walls were completely coapted over the entire length of the urethra, typically using 2 to 3 syringes of collagen.

### Results

We identified 73 subjects who underwent transurethral collagen injection during this time period. Mean age and range were 72.49 [17-94]. Sixty seven subjects presented with symptoms of mixed or pure stress urinary incontinence. Five subjects without stress symptoms had leak point pressures on multi-channel urodynamics of  $\leq 86$  cm H<sub>2</sub>O and no urethral mobility. Mean cough leak point pressure was 78.9cm H<sub>2</sub>O [25-155] and mean valsalva leak point pressure was 67.22 cm H<sub>2</sub>O [21-117]. Eight subjects underwent concurrent procedures including 5 prolapse repairs. Mean preoperative IIQ-7 and UDI-6 scores [range] were 44.98 [9.51, 99.9] and 53.28 [16.65-99.9], respectively. Mean amount of collagen injected was 6.5ccs with a range of 1.5-10ccs and mean OR time was 19 minutes for the collagen injections. Thirty-six percent of subjects were discharged with a catheter for bladder drainage. All catheters were removed within a week of the procedure and no cases of prolonged retention were seen.

Statistically significant reductions in scores on the IIQ-7 and UDI-6 were found with a mean follow-up time of 276 days [range 60-528]. Mean postoperative IIQ-7 score decreased to 29.02 [range 0-99.9] ( $p=0.005$ ) and UDI-6 score decreased to 37.54 [range 0-83.25] ( $p = 0.006$ ). In those subjects with follow-up  $>1$  year, ( $n=31$ ), 29% reported a duration dryness  $>1$  year and 51% reported dryness lasting  $>6$ months. 58% reported leaking less than prior to the injection and 56% indicated that they would have the procedure again.

### Interpretation of results

These results suggest that this technique may be more effective than traditional transurethral collagen injections. Detailed prospective studies are needed to further explore the effectiveness of this technique.

### Concluding message

The effectiveness and duration of transurethral collagen injections may be improved using this modified technique.

**FUNDING:** No Funding

**HUMAN SUBJECTS:** This study was approved by the University of Rochester Research Subjects Review Board and followed the Declaration of Helsinki Informed consent was not obtained from the patients.