

## PRE-OPERATIVE URODYNAMIC PROFILE OF ARTIFICIAL URINARY SPHINCTER CANDIDATES

### Hypothesis / aims of study

To optimize the outcome of patients referred for artificial urinary sphincter (AUS) implantation preoperative urodynamic (UD) evaluation is routinely performed at our institution. The aim of the study was to assess the UD profile and specifically the prevalence of detrusor overactivity (DO) and reduced functional bladder capacity (BC) (<300ml) in potential AUS candidates.

### Study design, materials and methods

From January 2009 to September 2010 a total of 121 patients underwent UD assessment before virgin AUS implantation for non-neurogenic stress urinary incontinence (SUI). In patients with DO and reduced functional BC pharmacologic treatment is administered and AUS implantation postponed until UD re-evaluation excludes the latter UD adverse findings.

### Results

83.4% of the patients with a mean age of 72 years (range 24-86) presented SUI after radical prostatectomy (RP), in 16.6% SUI resulted of other cause. A minority of 14.9% of the patients had undergone radiotherapy (RX).

At baseline median urine loss during standardized pad-test was 81g (2-332). In 48% UD had to be performed with Cunningham clamp due to otherwise impossible cystomanometrie due to continuous urine loss. First need to void was documented at a mean volume (V) of 181ml ( $\pm 93$ ), normal desire and strong desire to void at a mean of 242ml ( $\pm 106$ ) and 309ml ( $\pm 118$ ), respectively. Mean BC and bladder compliance was 351ml ( $\pm 124$ ) and 54ml/cmH<sub>2</sub>O ( $\pm 63$ ).

Voiding phase was characterized by a mean Qmax of 21ml/s ( $\pm 13$ ), mean PdetQmax was 42cmH<sub>2</sub>O ( $\pm 29$ ), postvoid residual volume was 14ml ( $\pm 51$ ) and mean Schäfer's grade was 0.6 ( $\pm 1.4$ ).

In 24.8% of the cohort DO (mean 67cmH<sub>2</sub>O ( $\pm 27$ )) occurred at a mean V of 173ml ( $\pm 96$ ). In 46% of patients with DO reduced BC was noted (mean 290ml  $\pm 122$ ). UD re-evaluation after initiation of anticholinergic treatment for mean 12.8 ( $\pm 8$ ) weeks showed statistically significant improved functional BC (mean 342 ml ( $\pm 110$ )); additionally in 26.7% DO was no longer detectable. In 2 patients (6.7%) pharmacological therapy was successfully escalated with intravesical Botox injection of 200IU. No statistical significant predictor (such as age, Pad-test, preop RX) for DO could be identified.

### Interpretation of results

Most of potential candidates for AUS demonstrate a normal UD profile. However, one-fifth present with DO and reduced functional BC at preoperative UD evaluation. In these patients mostly 12 weeks of anticholinergic drug administration is effective to treat DO and statistically significantly increase BC (>300 ml).

### Concluding message

DO and low-compliance bladder are not a contraindication for AUS implantation.

### Disclosures

**Funding:** none **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** not necessary, clinical routine **Helsinki:** Yes **Informed Consent:** Yes