

## The Urodynamic Findings in Men and Women with Detrusor Under Activity

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### Hypothesis / aims of study

- Detrusor underactivity (DU) occurs in 9-48% of the population depending on age, sex and definition. We assessed the incidence and type of associated urodynamic findings in men and women diagnosed with DU following urodynamic assessment at our institution for refractory lower urinary tract symptoms in a 20-month period.

### Study design, materials and methods

- We retrospectively reviewed the urodynamic findings in 1155 (460 male) consecutive non-neuropathic patients having video-urodynamics and conventional urodynamics between 31/5/16 and 3/1/18.
- Detrusor underactivity was defined as per 2002 ICS definition.
- Details on DU patient demographics and their urodynamic findings were determined and are detailed in the Table.
- Statistical analysis was by T-Test and Chi-Square analysis and significance determined as  $P < 0.05$ .

Parameter	Male	Female
Number, (n)	167	203
Age years, Median (range)	65 (21-89)	53 (17-87)*
1 <sup>st</sup> sensation ml, median/mean	158/187	146/178
1 <sup>st</sup> desire ml, median/mean	206/229	198.5/227
Normal desire ml, median/mean	270/281	269/290
Strong desire ml, median/mean	310/320	347/353
Total capacity ml, median/mean	377/392	437/432*
Max Functional Capacity ml, median/mean	255/252	299.5/353*
Normal compliance, n (%)	116 (70)	162 (80)*
Detrusor Overactivity, n (%)	83 (50)	63(31)*
Urge Urinary Incontinence, n (%)	58 (35)	47(23)*
Stress Urinary Incontinence, n(%)	34 (20)	52 (26)
Strain void (%)	46 (28)	46 (23)
Voided volume ml, median/mean	273.5/274	272/282
Q max ml/s, median/mean	7/7	10/9.6*
PdetQmax cmH2O, median/mean	38/38	25/28 *
PVR ml, median/mean	30/94	50 /108
BCI median/mean	77.5 /73	78/ 74

### Results

- 101 patients (50 male) with no or problematic voiding studies were excluded. 370 patients (35%) had DU; 36% (167) of men and 34% (203) of women.
- Women with DU were significantly younger, they had significantly larger total and maximal functional capacity, and significantly higher Qmax then men with DU.
- Conversely, men with DU had significantly more reduced compliance, detrusor overactivity and urge urinary incontinence (See table).

### Interpretation of Results

- DU affects a significant proportion of patients seen at our tertiary referral functional urology unit.
- Women with DU were significantly younger and had significantly larger total and maximal functional capacity than men with DU.
- Men with DU presented with significantly more detrusor overactivity and urge urinary incontinence.

### Conclusion

- DU was demonstrated in 35% of our patient population. Women tended to present with DU compared to men.
- Men presented with DU despite presenting with detrusor overactivity and urge urinary incontinence.