

TEN YEAR EXPERIENCE WITH INVASIVE URODYNAMIC ASSESSMENT IN A HIGH-VOLUME REFERRAL CENTRE

Hypothesis / aims of study

Despite clear recommendations for the use of urodynamic evaluation of male and female Lower Urinary Tract Symptoms (LUTS) are provided by international guidelines, there is lack of definitive data on its use in clinical practice.

The aim of this survey is to overview our ten year experience on invasive urodynamics assessment (UDA) including cystomanometry, pressure flow study, video-urodynamic and urethral pressure profile, analyzing indications and temporal trend of use in a high-volume referral centre.

Study design, materials and methods

We retrospectively analyzed our prospectively collected database from 1st Jan 2006 to 31th Dec 2015 searching for: 1) patients demographic data; 2) number of patients referred to our centre for UDA by the referring physician; 3) number of UDAs actually performed; 4) number of patients not receiving UDAs due to inability of catheter placement; 5) number of UDAs negative for Lower Urinary Tract Dysfunctions (LUTD).

All patients underwent abdominal and pelvic ultrasound and urine culture before UDA. Patients with positive urine culture underwent a cycle of antibiotics based on urine antibiogram.

A descriptive statistical analysis was performed. Different eras (2006-2010 vs 2011-2015) were compared using Chi-squared test. All analyses were performed with SPSS version 18.

Results

We identified 6233 requests of UDA in our cohort, of which 1.396 (22.4%) of male and 4837 (77,6%) of female patients. Median age was 63,5 (IQR 57,0 -71,5) for male and 58,0 (IQR 51,5- 64,2) for female patients. Overall, 6002 (96.2%) patients performed UDA, of which 1269 (21,2%) and 4733 (78,8%) male and female patients, respectively (Figure 1).

Patients with UDA negative for LUTD were 547/6233 (8.7%), 89/1396 (6,3%) and 465/4837 (9.6%) UDAs were negative for LUTD in the male and female cohort, respectively (Figure 2). Males with UDA negative for LUTD in 2006 (10,9%) were significantly higher than those in 2015 (1,3%) ($p=0,0002$), as well as in the era 2006-2010 compared to the era 2011-2015 era ($p=0,0001$).

On the contrary, females with UDA negative for LUTD in 2006 (7,3%) were significantly lower than those in 2015 (12,2%) ($p=0,006$), as well as in the era 2006-2010 compared to the era 2011-2015 era ($p=0,0001$).

Overall, UDAs not performed due to inability of catheter placement were 221/6233 (3.5%), of which 127/1396 (9.0%) in the male cohort and 104/4837 (2.1%) in the female cohort (Figure 3).

No significant differences were found comparing the rate of not performed UDAs between different eras (2006 vs 2015 and 2006-2010 vs 2011-2015) in both the male and female cohorts ($p>0,5$).

Interpretation of results

We have shown that the majority of patients referred for UDA at our centre were female. However, comparing the UDAs performed in 2006 vs 2015 and in the eras 2006-2010 vs 2011-2015, there was a statistically significant decrease in UDA negative for LUTD in males and a statistically significant increase in UDA negative for LUTD in females. Finally, the number of UDA not performed for inability to catheterization was higher in males than females, mainly due to an increased rate of urethral stricture in the male cohort.

Limitations of our survey include: 1) lack of data regarding number of repeated UDAs in the single patient; 2) lack of standardized assessment of surgical treatments performed prior to UDA or medical therapies ongoing at the time of UDA.

Further research is needed to confirm the results of our survey and to assess the possible medical and economical implications on a larger scale.

Concluding message

We performed an extensive overview of a ten-year experience with UDA in a high-volume referral centre. We have shown that appropriateness of requested UDAs from 2006 to 2015 improved in the male cohort while it worsened in the female cohort, despite a more extensive use of UDA in female patients.

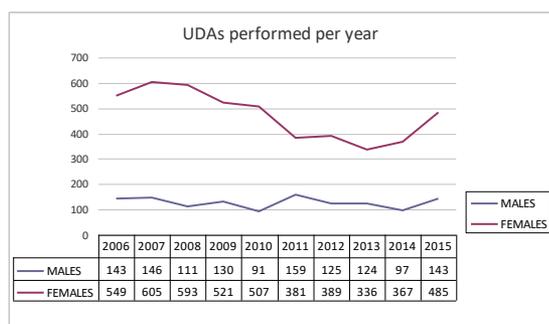


Figure 1

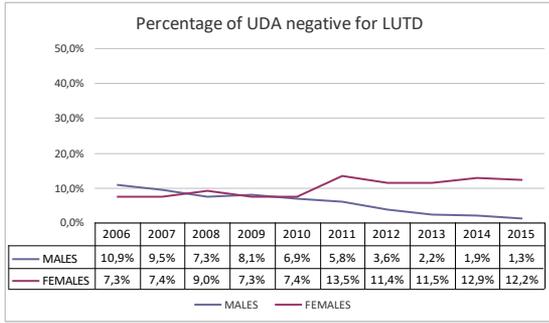


Figure 2

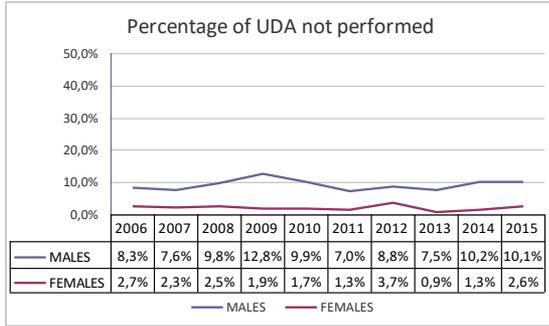


Figure 3

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** retrospective analysis **Helsinki:** Yes **Informed Consent:** Yes