

## URODYNAMICS FOR OLDEST OLD FEMALES (80 YEARS OLD AND MORE). WHO AND WHY? WHICH DIAGNOSIS?

### Hypothesis / aims of study

Urodynamics is considered as the gold standard for the evaluation of patients with lower urinary tract symptoms (LUTS). With the ageing of the population, more and more elderly females undergo urodynamics for LUTS. Our objectives were to analyze the population of women aged of 80 years and more who underwent urodynamics as outpatients in our laboratory, to search for why they were referred, which urodynamic data were obtained and which diagnosis was made.

### Study design, materials and methods

Out a total of 782 females of all ages who underwent urodynamics for LUTS between January 2005 and December 2007, 91 (11.6 %) were aged of 80 years or more (mean age 83.3 years; range 80-93y.).

Urodynamics was performed with the Laborie's Dorado® unit. A complete urodynamic session included an initial free uroflow (FF1), cystometry and intubated flow (IF) (10F triple-lumen urethral catheter, filling rate 50 mL/min) in seated position, urethral pressure profilometry (UPP) bladder empty (before the cystometry) and 200-250 mL filling if incontinent, and a second free uroflow (FF2) if bladder has been filled for UPP.

Clinical evaluation comprised of history of LUTS (major complaint when concomitant LUTS), previous history of neurological disease (stroke, multiple sclerosis, lumbar injury...) or dementia, of pelvic floor dysfunction and of previous pelvic surgery.

Studied items were feasibility of FF and IF, results of cystometry and UPP and final diagnosis.

### Results

**Motive for urodynamics:** incontinence was the main complaint: 26 urge, 24 mixed and 11 stress; other complaints were 10 pollakiuria, 12 dysuria or retention and 1 cystitis; 7 patients with prolapsus had pre-operative evaluation.

**Previous history:** 24 neurological disease and 11 dementia (38.5%), 16 pelvic organ prolapse and 15 previous pelvic surgery (34.1%).

**Feasibility of the tests:** to be interpretable, a test needed a urinated volume > 100 mL; the table summarizes the results:

	obtained	Interpretable (Vu > 100 mL)	not obtained (n.o.) not performed (n.p.)
FF1	69	30 (43.5%)	22 (n.o.)
IF	61	44 (72.1%)	30 (n.o.)
FF2	61	57(93.4%)	30 (n.p.)

**Cystometry:** detrusor overactivity (DO) was found in 34 patients (37.4%) of whom 12 (35.3 %) had a history of neurological disease. Rhythmic rectal contractions (RRCs) were observed in 29 patients (31.8%) of whom 9 (31.0%) had a history of neurological disease.

**UPP:** Maximum urethral closure pressure (MUCP) was 44 ± 22 cmH<sub>2</sub>O bladder empty and 35 ± 17 cmH<sub>2</sub>O bladder filled (p = .01).

**Final diagnosis:** bladder overactivity was the main diagnosis, found in 34 patients (37.4%); sphincter incompetence concerned only 21 (23.1%) patients, detrusor underactivity (defined as absence of detrusor contraction during voiding and post void residual) was found in 12 (13.2%), 4 (4.4%) had nocturnal polyuria, 13 (14.3%) had various or uncertain diagnosis and 7 (7.7%) had normal testing.

### Interpretation of results

Incontinence is the main complaint (67.0%) which is very near urgency as it is observed in 65.9% of elderly females (against 44.5% in the in the population less than 80 years old).

A significant result is the low percentage of interpretable FF at arrival compared with the 60.8% observed in the population less than 80 years old.

Increased frequency of DO this elderly population is consistent with previous studies (37.4% against 23.0% in the population less than 80 years old) but does not explain the complaint of urgency (65.9%). Occurrence of RRCs confirms the high prevalence of rectal contractions in elderly patients (31.8% against 16.5% in the population less than 80 years old).

MUCP has the value expected for the age; bladder filled, the decrease of the MUCP value implies a lack of adaptation of the sphincter to bladder filling.

### Concluding message

In that population of oldest old females, the main complaint is associated with urgency (urge or mixed incontinence, pollakiuria). Prevalence of detrusor overactivity and of occurrence of rhythmic rectal contractions during cystometry increases in that population.

A surprising result is the small group of patients whom proposed diagnosis is the only sphincter incompetence. At last, the low success in FF at arrival compared to that PF and FF at the end of the session suggests that anxiety and a "uncosy" environment might play an important role in addition to the changes in rate of urine production with ageing.

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<b>Is this a clinical trial?</b>	No
<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	No
<b>This study did not require ethics committee approval because</b>	It is a retrospective study.
<b>Was the Declaration of Helsinki followed?</b>	Yes
<b>Was informed consent obtained from the patients?</b>	No