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## ANALYSIS OF THE URODYNAMIC PARAMETERS IN THE MICTURITIONAL PATHOLOGY OF WOMEN IN OLD AGE

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*Summary:* Urinary pathology still arouses interest today most especially among those women who are entering old age and especially in relation to the fact that in this age static pelvic changes and trophism of the uro-genital organs occur with greatest frequency. An analysis is presented here of the urodynamic parameters followed in a group of patients affected by this pathology, compared with a control group.

*Key words:* female stress incontinence; urodynamics.

In clinical practice today we regularly meet an increasing number of cases of urinary pathology, above all of the micturitional type, correlated more or less with both changes in the pelvic statics and with hormonal deficits.

It is also notable that the prolonging of the average expectation of life, with the profound biological, sociological, occupational and ethical implications deriving from it, has created a phenomenon which, from the socio-economic point of view, involves all the more advanced countries<sup>(1, 2, 3, 4, 5, 6)</sup>.

In the Italian population, for example, according to data from ISTAT (Istituto Centrale di Statistica) in 1985, the average life-span in women is estimated at around

77 years. From such objective conditions may be deduced how important a part the climacteric, the menopause and postmenopause play in modern gynecological discipline, a role increasingly dominant because of the new and widespread problems presented<sup>(7, 8)</sup>.

In this age the major urological pathology is represented by urinary incontinence, with situations of anatomical changes of various types, such as, for example, cases of anterior prolapse understood as urethrocele, cystocele and urethrocyстоcele, or cases of uterine prolapse of high degree or of uretrovaginal prolapse<sup>(9, 10, 11)</sup>.

Alongside these cases the pathology is often associated with hypoestrogenism

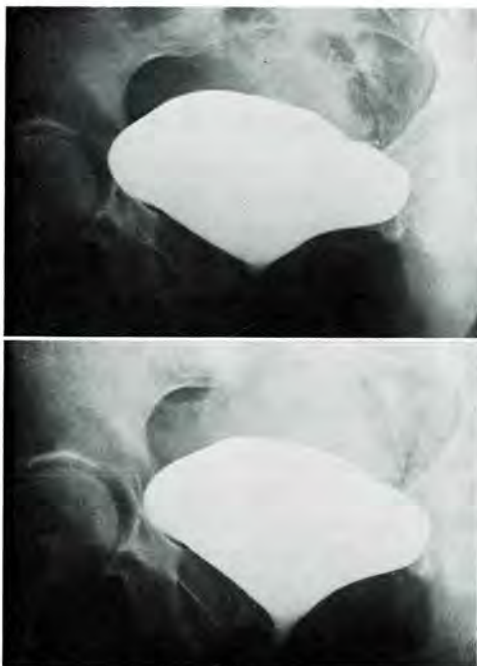


Fig. 1. — Voiding cystourethrogram in a case of utero-vaginal prolapse. In number 2 is evident the «funneling» of the cervico-urethral junction during straining; in number 3 during micturition is evident discrete lower of vesical base and subsequent enlargement of the urethro-vesical angle.

and/or recurrent infections of the lower urinary tract.

Gynecological Urology has felt this tendency which brings with it an increasing demand for an approach to the needs of patients with genito-urinary pathologies in old age (12, 13, 14, 15, 16, 17, 18).

#### MATERIAL AND METHODS

A group of 35 patients ages ranged from 65 to 81 years were examined, having come for observation to the Urodynamic Centre of the Gynecological and Obstetric Clinic of the University of Padua with genito-urinary pathologies of various nature. The evaluation of the patients included anamnesis compiled from a specific questionnaire of objective gynecological,

urological and neurological examinations and of through urodynamic investigation (figs. 1, 2).

The urodynamic study was carried out by DANTEC apparatus with simultaneous recording of vesical pressure, abdominal and differential, uroflussometry and urethral pressure profile.

The pathologies preponderant by number of cases proved to be prolapse (19/35), urinary incontinence of various etiologies (8/35), and micturitional disturbances (pollakiuria, nicturia etc.), isolated (7/35) or associated with prolapse (14/35).

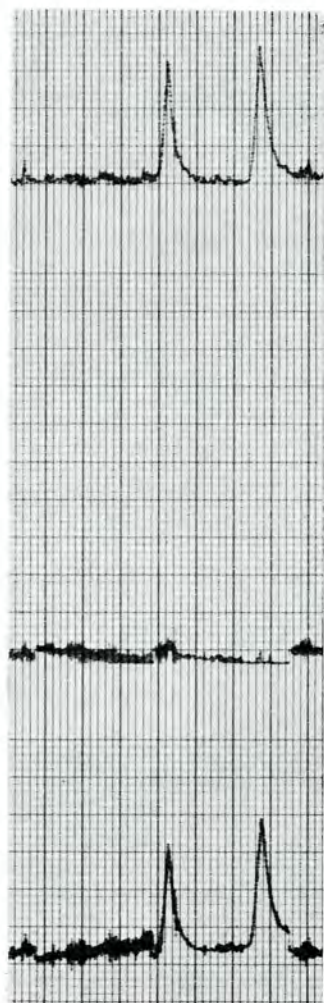


Fig. 2. — Case of utero-vaginal prolapse (IIIth grade): urodynamic recording showing detrusorial instability.

*Analysis of the urodynamic parameters in the micturitional pathology of women in old age*

Table 1. — *Urodynamic parameters related to the vesical function in first group (35 cases).*

	Average	stand. dev.	median	variat.	minimum val.	max. val.
1st. stim.	138.3	64.28	105	300	100	400
vesic. cap.	427.77	121.66	450	400	200	600
max. ves. pres.	20.22	9.45	18	40	3	43

Table 2. — *Uroflowmetry in the first group.*

	Average	stand. dev.	median	variat.	minimum val.	max. val.
empty val.	406.85	169.48	456	597	19	616
max. flow	28.01	16.98	26.9	92.8	3.2	96
med. flow	11.48	5.83	10.9	24.6	1.7	26.3
time of flow	36.67	17.68	33	75	11	86

60% of the patients had a parity of over two, 8% of them were childless. 9 patients (26%) showed anamnesis of previous surgery for prolapse or urinary incontinence.

RESULTS

The anamnestic picture revealed first of all a high incidence of pollakiuria and nocturia: 60% of the patients in fact reported having recourse to micturition 8 times in the night.

The clinical evaluation was characterised by the frequent encounter with situations of deficit in the pelvic support (55% of cases) with a high number of patients (8 = 22.8%) affected by 3rd grade utero-vaginal prolapse.

The urodynamic study which is reported in the summary of table 1, 2 and 3 permitted the recognition, in the course of cystomanometry, of a high number (14 cases = 40%) of hypertonic bladder with low compliance, as opposed to 2 cases (5.7%) of hypotonic bladder.

The data obtained in the course of the enquiry have been compared with those obtained in a randomised sample of 35 patients who came to notice at ages above 65 years, with the aim of allowing a comparative evaluation of personal cases which satisfied, as characteristic in homogeneity, the survey of the anamnestic, clinical and urodynamic pictures (table 4, 5, 6).

While admitting the extreme peculiarity of the oldest group of patients related to

Table 3. — *Anatomic and functional parameters of urethra in first group.*

	Average	stand. dev.	median	variat.	minimum val.	max. val.
max. urethral profile	52.85	12.87	52	55	23	78
cap. uret. profile	40.34	12.89	39	55	13	68
anat. uret. length	35.66	6.22	36	28	18	46
funct. uret. length	30.88	5.07	30	19	21	40
Age	71.5	4.6	71	16	65	81

Table 4. — *Urodynamic parameters related to the vesical function in second group (35 cases).*

	Average	stand. dev.	median	variat.	minimum val.	max. val.
1st. stim.	107.40	51.63	100	270	30	300
vesic. cap.	396.74	87.20	382	350	200	550
max. ves. pres.	10.81	11.08	7	51	3	54

Table 5. — *Uroflowmetry in the second group.*

	Average	stand. dev.	median	variat.	minimum val.	max. val.
empty val.	374.33	115.49	381	461	63	524
max. flow	24.42	13.94	21.3	65.4	5.6	71
med. flow	10.08	4.98	11.1	18.1	2	20.1
time of flow	43.37	32.90	33	149	16	165

Table 6. — *Anatomic and functional parameters of urethra in second group.*

	Average	stand. dev.	median	variat.	minimum val.	max. val.
max. uret. profile	67.48	22.90	68	105	30	135
cap. uret. profile	55.74	20.41	55	94	21	115
anat. uret. length	37.22	6.91	36	28	24	52
funct. uret. length	30.85	4.91	31	18	22	40
Age	50	9.47	51	36	28	64

the high incidence of uro-genital prolapse, in comparing results this seemed particularly significant in relation to the discrepancy in the numbers of cases of detrusorial instability encountered in the two groups.

In fact the 34.2% met in the 1st group is opposed to 17.14% shown in the 2nd group (table 7).

Table 7. — *Incidence of detrusorial instability resulted after urodynamic tests in clinical series (Group I and II).*

	No. cases	Percentage
I Group (35 cases)	12	34.28
II Group (35 cases)	6	17.14

Another significant datum proved to be the diverse incidence in the two groups of sphincteral insufficiency, evaluated under the heading of static urethral pressure and corresponding to the situation in which the pressure on closure is lower than the values expected for the age in consideration. In the first group, in fact, such conditions were encountered in 31.42% of cases (11/35) as opposed to 14.28% of cases (5/35) encountered in the second group.

#### CONCLUSION

The series of patients considered presents the characteristics of extreme peculiarity related above all to the high incidence of utero-vaginal prolapse: this is evidently due to the specifically gynecolo-

gical recruitment of our Urodynamic Centre.

This notwithstanding, critical analysis of the data recorded seemed worth while: the rate of detrusorial instability proved double in relation to that of the control group.

Equally, the incidence of sphincteral insufficiency was much more frequently met in respect to the reference group.

It could therefore be concluded synthetically that the bladder of women in old age is hypertonic and unstable, often associated with prolapse and sphincteral insufficiency.

Notoriously, some of such characteristic react positively to pharmacological treatment (e.g. parasympa, ticolitical, myorelaxant, alphastimulant etc.)<sup>(19, 20, 21, 22)</sup>.

Therefore even before considerations of the greater anaesthesiological-surgical risks to elderly patients intuitive difficulties arise in the medico-pharmacological approach. In women in old age, in fact, pathologies frequently associated with uro-gynecological ones and treatments already being undertaken for such morbid forms make it difficult to use those drugs which are habitually used for patients in satisfactory general condition<sup>(23, 24, 25)</sup>.

In regard to such premisses it seems reasonable to affirm that, with the exception of cases highly selectionised, local estrogentherapy does not encounter any kind of contra-indication.

Besides, the topic use of estrogens constitutes a justifiable therapeutic protection for all those patients who refuse surgery or wish to postpone it in order to try medical treatment, and for patients in whom, for reasons of age or general condition the operatory risk is considered high in relation to possible benefit; or in cases in which the slight incontinence may make the suggestion of surgery seem exaggerated, viewed by an adequate cost/benefit evaluation<sup>(26, 27, 28, 29)</sup>.

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## STEROID RECEPTORS IN BENIGN BREAST DISEASE, GROSS CYSTIC DISEASE AND FIBROADENOMA

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*Summary:* The benign breast pathology embraces a wide variety of anatomic-clinical-pathological conditions producing confusion in nomenclature. The Authors collected three different types of BBP and investigated the hormonal receptor status for each.

The following concentrations of ER $\alpha$  were found: 1-6 fmol/mg in BBD; less than 2 fmol/mg in GCD; 12-18 fmol/mg in the cytoplasm and 29-37.5 fmol/mg in the nucleus in FA.

In FA, PgR was found in concentrations of 43.5-50 fmol/mg in the cytoplasm and 0.2-10 fmol/mg in the nucleus.

Even if we consider these three histo-pathological entities (BBD, GCD, FA) separately, no correlation can be seen between the presence of receptors and benign breast disease. The only observation we can make is that the fibroadenomas contain more easily identifiable receptor concentrations than BBD and GCD.

*Key words:* receptors, benign breast disease.