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OUR EXPERIENCE ABOUT THE ROLE OF URODYNAMIC TESTS IN FEMALE URINARY INCONTINENCE

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Summary: The author reports his own experience upon urodynamic evaluation of vesico-urethral function in patients suffering from urinary incontinence. The analysis of the results confirms the high significance of urodynamic investigation in cases of urinary incontinence either preoperatively, in order to define the conditions which lead to the pathology and to decide the most suitable therapeutic approach, or postoperatively, in order to confirm the realisation of therapeutic success.

Key words: female stress incontinence; urodynamics.

The importance of urodynamic investigastions in gynecology is today universally recognised, as witnessed by the numerous researches reported by various Authors in literature. It is notable that a correct differential diagnostic approach is presupposed essential for all forms of urinary patho-

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logy presented in gynecological practice to the end of effective therapeutic conduct.

In the following paper is reported out the clinical experiences using urodynamic investigation in urinary incontinence ([1, 2, 3, 4]).

URODYNAMIC EVALUATION IN FEMALE URINARY INCONTINENCE

The concept of subjective or social continence does not always correspond to objective and demonstrable continence, therefore about a quartre of patients affected by urinary incontinence do not present a real stress incontinence on any anatomical basis but on diverse forms requiring in consequence differentiated treatment, not necessarily of a surgical but also of a medical type.

Today, the incontinence of urine is a subject of great interest because its physiopathogenetic bases, which are in part still unknown, can be investigated more easily through modern computer science equipment ([5, 6, 7, 8, 9]).

The ideal objective of therapy in urinary incontinence is, in our opinion, the reestablishment of equilibrium between the detrusor and the sphincteral mechanism, which would thus allow both continence and an effective drainage.

According to our survey, it is a dysfunction which especially affects women during menopausal years, the age span that accompanies a hypoestrogenic state ([10, 11, 12, 13, 14, 15, 16, 17, 18, 19]).

Thus, the increase of incontinence is directly proportional to the aging of the population. It is of concern to developing countries as well as developed countries and involves various and remarkable sanitary problems, as well as social and economic ones ([20, 21,]).

The importance of recognising the type of urinary incontinence due to detrusorial instability is therefore evident. It must be underlined that if, in such a situation, some forms of urinary incontinence may be recognised on the basis of the traditional clinical-instrumental investigations, the diagnosis of detrusorial debility or vescical instability is, on the other hand, simply urodynamic. In such cases of urinary incontinence, certainly not numerous but surely significant, both the urodynamic investigations and the diagnostic tests undertaken on physiopathological bases lead to the understanding of the pathogenesis of such pathologies and to the choice of treatment to be carried out on rational bases ([22, 23, 24, 25, 26]).

It is therefore evident that results evaluated solely from anamnestic data or by anamnestic data associated with static radiological investigations with results evaluated by means of urodynamic enquiries cannot be compared. It is, in fact, a common experience among patients who refer to urinary leaks, even imperceptible, after operation, and of patients who describe themselves as cured even when, after checking, they prove to be incontinent still, albeit in a minor degree.

Besides, urinary incontinence in the female is often associated with situations of anatomic changes of various types such as, for example, is verified in cases of anterior prolapse, understood as uretrocele, cistocele or uretrocistocele, or in cases of uterine prolapse of high degree, or of uretrovaginal prolapse. Nevertheless in clinical pratice it is observable that the escape of urine is present in cases where there is absence of any changes in the pelvic floor; the which therefore necessitates differentiation among the various forms or urinary incontinence: stress incontinence, urge incontinence and forms of mixed type and, above all, their prompt recognition in order to resolve these problems adequately, with a consequent reduction in the index of failures ([27]).

MATERIAL AND METHODS

Between January and December 1984, 22 patients with urinary incontinence underwent urodynamic investigation at the Obstetric and

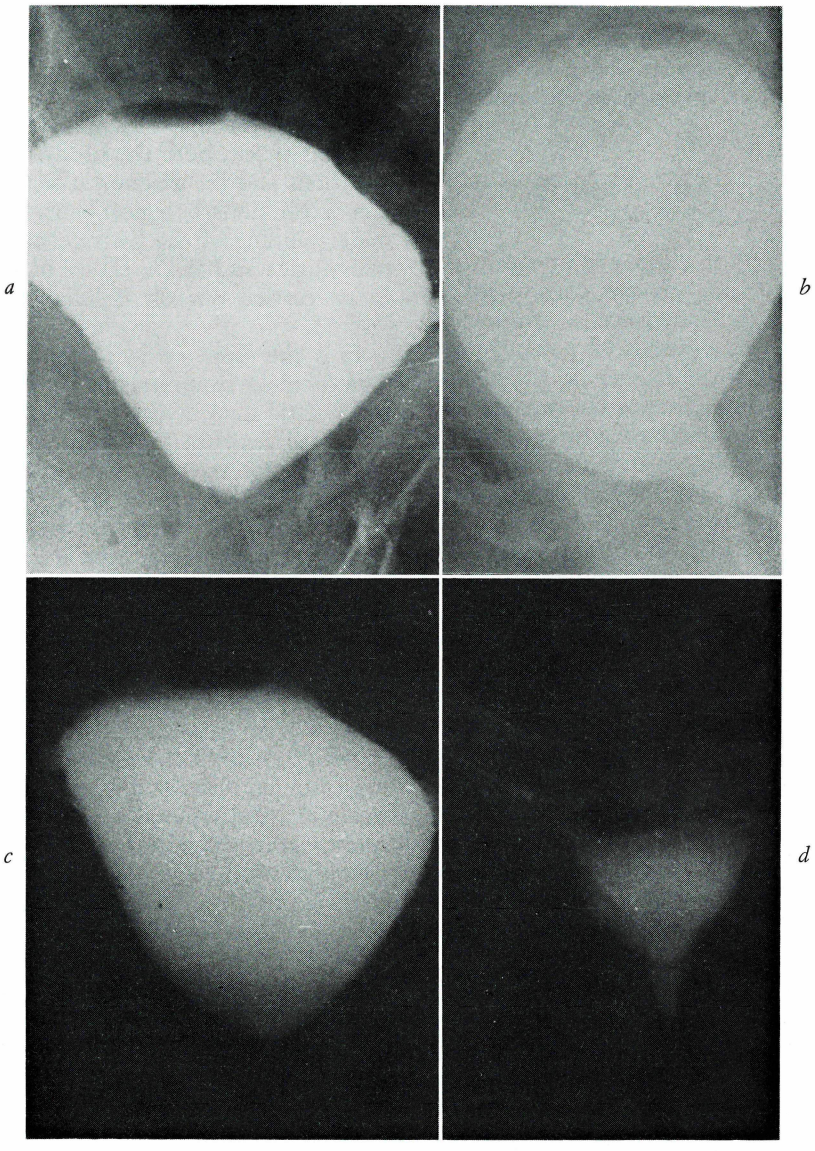


Fig. 1. — Voiding cystourethrogram in female incontinence associated by utero-vaginal prolapse. In *a*) max. capacity; *b*) voiding fase showing the funnelling of the vesical neck and the variation of the urethro-vesical angle; *c*) minctional fase; *d*) discrete post-minctional residual.

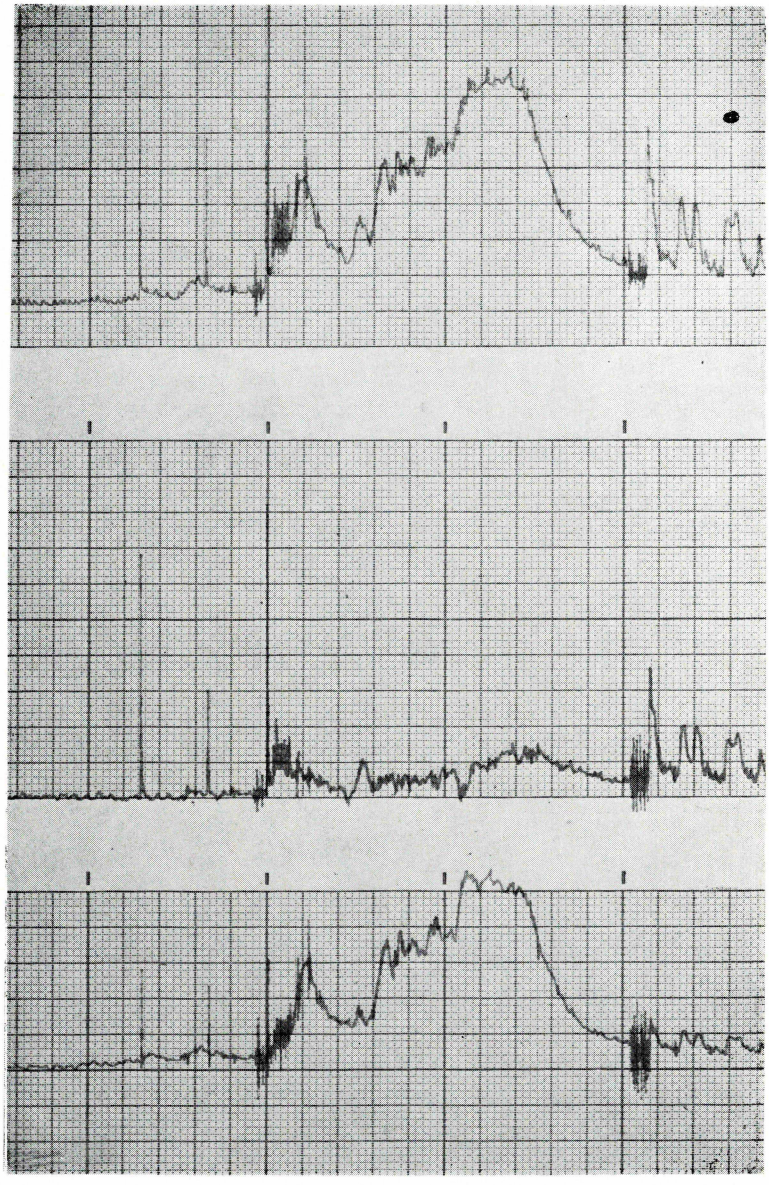


Fig. 2. — Detrusorial instability characterized by involuntary contractions at high pressure of long duration. (Case of utero-vaginal prolapse - IInd grade).

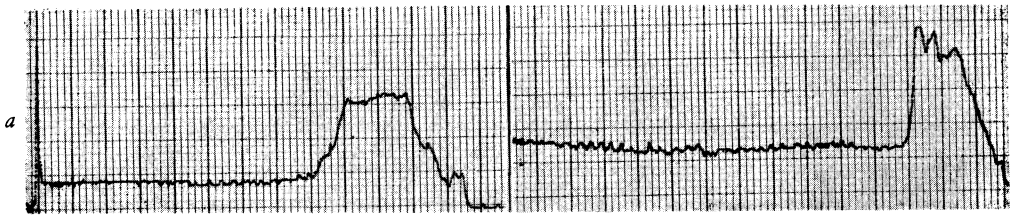


Fig. 3. — Urethral pressure prohile before (*a*) and after (*b*) vaginal operation (colpohysterectomy plus anterior colpoplasty). Same case of fig. 1-2.

Gynecologic Clinic of Padua University. The patients' average age was 59 years, and only 5.8% had visited a doctor during the first year after symptoms appeared. In all, 22.7% of the patients had already undergone gynecologic surgery; 76% had delivered 2-3 times (figs. 1, 2, 3).

Chronic constipation was reported as the most frequently associated pathology (31.8%). The investigations have been made by a DISA 2100 Urosystem Equipment (table 1).

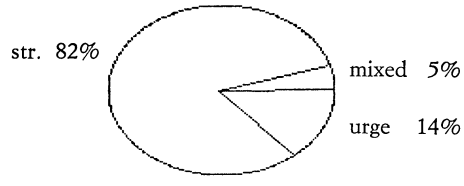
Table 1. — *Clinical data of patients affected by urinary incontinence (tot. cas. 22).*

Clinical data	Average	Percentage
Age	59	—
Deliveries	2-3	76 %
Previous surgery	—	22.7%
Chronic constipation	—	31.8%

RESULTS

Of 22 patients investigated, 3 suffered from urge incotinence (13.6%), 18 from stress incontinence (81.8%) and 1 from mixed incontinence (table 2).

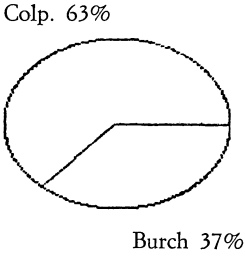
Table 2. — *Urodyn. Eval. in urinary incont. 22 cases.*



The patients characterized by a detrusorial instability have been treated through an anticholinergic and muscle relaxant medical therapy with satisfying results.

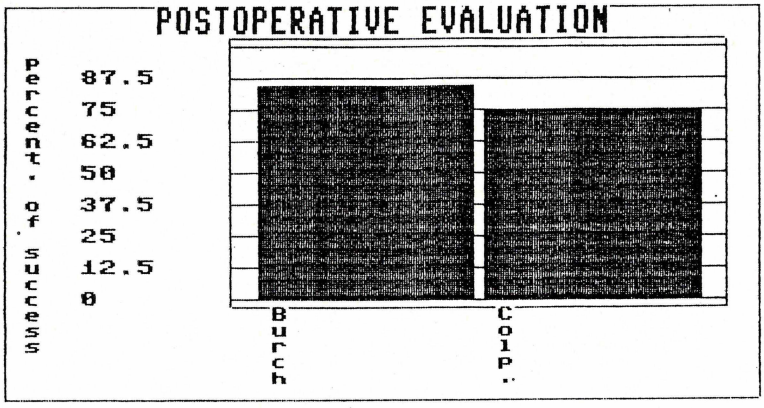
The remaining patients have gone through the Burch colposuspension intervention (7 patients: 36.8%) or anterior colpoplastics (12 patients: 63.15%), according to the rate of cystocele found clinically. In fact, according to the protocol adopted by us, if a descensus of the vescical exceeds 4 cm, the pubic symphysis must be repaired via the vagina, whereas the incontinence connected to a lower grade descensus can be more suitably resolved via the region above the pubis (table 3).

Table 3. — *Surg. Treat. of urinary incont. 19 cases.*



The therapeutic success (that is to say, the objective resolution of incontinence with efficacious voiding at low pressures) has been obtained in 85% of the patients who underwent the colposuspension and

Table 4.



in 75% of the cases treated by anterior colpoplastics (table 4).

The postoperative urodynamic investigation allows us to make the following remarks: after the anterior colpoplastics surgery, the static characteristics of the urethra proved to be more frequently comparable to those statistically defined as normal.

Through the Burch intervention, on the contrary, the urethral region can be extended to a higher degree in which it is possible to point out the transmission of the abdominal pressure.

The patients with incontinence treated througt colposuspension had good results. The therapeutic success has also been supported by the disappearance of the urodynamic description of detrusorial instability.

A singular problem is represented by the postoperative course where the Burch intervention implies a series of complications which are, with no doubt, greater if compared to the anterior colpoplasty intervention, but for the generic morbidity and the specific one. Therefore, we think it is important to carry out a very scrupulous hemostasis of the Retzius space and to put in the seat drainages working without interruption.

CONCLUSION

We believe that our results are encouraging and satisfactory.

Moreover, from the analysis of the literature, we find postoperative recurrences of urinary incontinence after various years, so that a reliable confirmation of surgical success can be obtained only by a follow-up protracted for not less than five years.

However, from our experience, the evaluation of the urethral region in which it is possible to record pressor fluctuations proportionate to the abdominal ones, represents the value that varies in a more remarkable way after interventions for incontinence supported by therapeutic success. The urodynamic investigation, aiming at characterizing and monitoring the patient suffering from urinary incontinence, must aim at " information " in order to obtain a better epidemiologic and clinic knowledge of the problem. Moreover, the resolution of the pathology of incontinence must not be left to chance or whim.

In fact, there are many surgical techniques proposed for the correction of the complex system of urinary continence.

However, nowadays most Researchers believe that the validity of surgical repair

is directly correlated to the simplicity of the surgical technique adapted that is, for a proper surgical correction, we would prefer the techniques whicle gain the same result with less trauma thus avoiding compression and obstruction of the cervico-urethral function.

In fact, after those operations we observe that after an appearant initial successfull correction failure often fallows.

We think that failure is mainly due to the adoption of both an incomplete protocol of clinico-diagnostic investigations, and a standard surgical techniques in pathological situations that are too different.

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