

MEDICAL HISTORY VALUE IN FEMALE URINARY INCONTINENCE

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ABSTRACT

Objective: To determine the relation between medical history and diagnosis as determined by urodynamic evaluation in female patients suffering from urinary incontinence.

Material and Methods: One hundred and twenty six female patients were evaluated for urinary incontinence with medical history. Patients with infectious or neurologic diseases were excluded.

Results: While agreement with the urodynamic diagnosis occurred in 87.5% of patients with medical history of genuine stress urinary incontinence, agreement in patients with stress urinary incontinence associated to urgency was found in only 55%. These differences were statistically significant ($p < 0.0001$), and therefore urodynamic evaluation seems justified in this group of patients.

Conclusion: Medical history of pure stress urinary incontinence presents high sensibility for genuine stress incontinence. Stress urinary incontinence associated with urgency is a formal indication to perform an urodynamic evaluation.

Key words: urinary incontinence, stress; urodynamic; diagnosis; age; female

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INTRODUCTION

Urinary incontinence is highly prevalent in female, ranging from 10 to 25% in women between 15 and 64 years old. Diagnosis and treatment of urinary incontinence in the United States represent an annual expend of nearly 10 billion dollars (1).

Some authors have tried to correlate urodynamic evaluation with patient urological complains. However, medical literature is not agreed about which patients should be benefited from an urodynamic evaluation for elucidating the origin of their urinary incontinence (2-10).

The purpose of the present article was to study women suffering from urinary incontinence, with no infectious or neurologic diseases, and to correlate the medical history with the findings of urodynamic evaluation.

MATERIALS AND METHODS

One hundred and twenty six women were studied between March and December 1996. The patients were referred for urodynamic evaluation due to urinary incontinence. The patient age ranged from 12 to 86 years old (mean 49.5 ± 12.4 years).

Firstly, patients answered a questionnaire that contained age, origin, number of pregnancies and delivery. All patients were asked objectively on urinary incontinence with the following questions:

a) - whether urinary leakage occurred only after increase of intra-abdominal pressure, or whether other urinary symptoms preceded (i.e., urgency, polacuria, nocturia);

b) - whether previous surgeries have be done for urinary incontinence;

c) - whether urinary leakage occurred in

conjunction with coughing, sneezing, giggle, or other activities that increase intra-abdominal pressure.

Patients with neurologic disease, large cystocele (grade III or IV), and urinary tract infection were excluded.

All patients received detailed information about urodynamic evaluation, and an informed consent was obtained. In all cases, urodynamic evaluation was performed with the Urosystem Polimed 2400 machine (Viotti Associados, São Paulo, Brazil). Lomefloxacin, one diary dose of 400 mg during 3 days, was administered to all patients at 24 hours before the day of urodynamic evaluation.

Patients were placed into lithotomy position, and the external genitalia were examined for urinary leakage with Valsava maneuver. Then, a complete urodynamic evaluation was performed. Cystometric evaluation was done to obtain the following data: a)- initial bladder pressure; b)- presence of bladder hyperactivity characterized by involuntary contractions; c)- bladder capacity at the first, normal, and strong voiding desire; d)- presence or absence of urgency and pain; e)- bladder capacity; f)- maximal bladder capacity. Bladder compliance was assessed by data from “e” and “f” issues.

After 200 ml of bladder saline solution infusion, and the patient in a lithotomy position, maneuvers to increase abdominal pressure were performed (Valsava maneuver). If urinary leakage was evidenced, abdominal leak point pressure was recorded.

We studied 126 patients with the following urodynamic diagnosis:

- Genuine stress urinary incontinence (SUI)
- Detrusor instability
- Hypersensitive bladder
- Underactive detrusor
- Bladder hypersensitive associated to SUI
- Detrusor instability associated to SUI
- SUI associated to Underactive detrusor.

For enabling comparisons, patients were divided into 2 groups: a) - SUI; b) - other diagnosis than SUI (no-SUI).

The chi-squared test with or without Yates correction were used for statistical analysis. All analyzes were performed in the Epi-Info 6.0 software (Center for Disease Control and Prevention-

Epidemiology Program Office, Atlanta, Georgia, USA).

RESULTS

Of all 126 patients, 88 (70%) presented medical history of urinary leakage related exclusively to exercises (SUI); 5 (4%) presented urinary leakage associated with urgency; and 33 (26%) presented urinary leakage with exercise and associated with urgency. Thirty-six patients (29%) had previous history for surgical treatment of SUI.

The urodynamic evaluation showed some different features. Urodynamic results were in agreement with SUI only in 96 patients (76.2%). Besides SUI, unstable detrusor was present in 11 patients (8.7%). Bladder hypersensitive associated with SUI was present in 10 patients (7.9%), and in just one patient the association of SUI with underactive detrusor was found. Urodynamic evaluation also showed 8 patients (6.3%) with unstable bladder only.

Despite the low number of patients with medical history of urge incontinence only, we removed these 5 patients. Thus our total sample was 121 women.

Patient medical history of SUI with or without urgency was stratified by age (Table-1), and showed no significant difference. Urodynamic diagnosis was divided according age (Table-2), and no significance was found ($p = 0.331$) between SUI and no-SUI.

Correlating the urodynamic findings with the medical history we found that from 121 patients with clinical symptoms of SUI, 88 patients presented SUI only. Of these women, urodynamic evaluation was performed in 77 patients (87.5%). Urinary leak no associated to exercises (no-SUI) were found in 11 patients (12.5%). Diagnosis of SUI was found in 18 patients (55%) from a total of 33 patients with SUI associated with urgency, and no-SUI was found in 15 patients (45%). These differences were statistically significant ($X^2, p < 0,001$).

DISCUSSION

The first step to achieve good results in the treatment of female urinary incontinence is to perform

a precise diagnosis. A well-done medical history and physical examination play important role in the clinical evaluation of urinary incontinence (11). The cornerstone in the management of urinary incontinence is to determine whether urinary leakage is caused by a morphological anomaly or by detrusor instability (12).

The urinary incontinence prevalence in a general female population ranging in age from 15 to 64 years old is of 10 to 25%, and increase linearly with age; 12.1% at 50 years, up to 24.6% at 90 years. Furthermore, the incidence rate is increased in hospitalized women (1,13). The most plausible explanation is that different methods were used to define urinary incontinence, and biased the total sample.

Our results diverged from the literature with regard to the linear increase of incidence by age. Although the linear increase was evidenced in the group of 40-49 years, a decrease was showed in other groups divided by age. It is important to be noted that our results correspond to a selected sample, referred to urodynamic evaluation. However, results from prevalence studies of female urinary incontinence almost always are biased with regard to the clinical data.

The initial evaluation of female urinary incontinence can be done with a detailed medical history. However, 30% of patients suffering from urinary leakage associated to exercise may have

urgency as symptom. Polacyuria, urgency, and nocturia associated with urinary leakage suggest detrusor instability. Nevertheless, involuntary bladder contractions may be not evidenced in the urodynamic evaluation. Furthermore, symptoms previously cited may exist in conjunction to SUI, and therefore the characterization of urinary incontinence with medical history only is not easy (14).

In our study, 26% of patients have complained SUI associated to urgency, while urinary leakage associated to urgency was present in 4% of all women. Despite our results are similar to those described in the medical literature, it can be highlighted that our sample is selected, and do not represent the general population.

A positive correlation between patient complain with urodynamic diagnosis of SUI is not always found in the literature, and wide ranges (50% to 100%) are described. Thus, whether a patient suffering from genuine stress incontinence need a complete urodynamic evaluation remains unanswered (4,5,7-11,15).

In our study, from those patients who have SUI only, 87.5 % presented a positive association with the urodynamic findings. No concordant diagnosis (no-SUI) occurred in 12.5%, and was divided into the following groups; SUI associated with detrusor instability (55%); SUI associated with bladder hypersensitive (37%), SUI associated with underactive detrusor (8%). Except for 12.5% of

Table 1 - Patients with clinic complains of stress urinary incontinence (SUI) with or without urge incontinence (UI) according to age.

Age (years)	SUI		SUI + UI		Total	
	No.	%	No.	%	No.	%
10 a 19	-	-	1	3	1	1
20 a 29	3	3	-	-	3	2
30 a 39	13	15	3	9	16	13
40 a 49	34	39	11	34	45	38
50 a 59	26	29	9	27	35	29
60 a 69	10	12	7	21	17	14
70 a 79	2	2	2	6	4	3
80 a 89	-	-	-	-	-	-
Total	88	100	33	100	121	100

χ^2 test, $p = 0.322$

Table 2 - Urodynamic diagnosis in patients suffering from stress urinary incontinence (SUI) according to age.

Age (years)	SUI		No-SUI		Total	
	No.	%	No.	%	No.	%
10 a 19	-	-	1	4	1	1
20 a 29	3	3	-	-	3	2
30 a 39	12	13	4	15	16	13
40 a 49	36	38	9	35	45	38
50 a 59	28	29	7	26	35	29
50 a 69	14	15	3	12	17	14
70 a 79	2	2	2	8	4	3
Total	95	100	26	100	121	100

χ^2 test, $p = 0.331$

patients who SUI was associated with other bladder dysfunctions, all patients were diagnosed correctly.

Some authors correlated SUI with clinical history of irritative symptoms as urgency, nocturia, polacuria and enuresis (3,4,6,10,15-17). However, the association of these symptoms with detrusor instability was not uniform among these authors, ranging from 4.2% to 81%. This wide range was due to retrospective and different methods applied by different researches. Some authors have demonstrated detrusor instability in the urodynamic evaluation in patients without irritative symptoms from 8% to 50% (2,9,16,18,19).

In the present series, 45% of all patients suffering from SUI associated with urgency presented other diagnosis than SUI. Detrusor instability was found in 26%, bladder hypersensitive in 40%, and SUI associated with detrusor instability in 34%. We found a significant difference between SUI only and SUI associated to urgency. Thus, detection of urgency in the medical history is indicative for an urodynamic evaluation.

We found 7% of detrusor instability in patients with SUI only. Thus, detrusor instability may occur in patients without irritative symptoms.

Despite some authors have suggested detrusor instability as the main cause for failure of the surgical treatment of SUI, others stated that there is no correlation between surgery success and detrusor instability (2). Furthermore, patients suffering from SUI associated to detrusor instability

may be cured after the surgical treatment. Thus, detrusor instability is not a formal obstacle for the surgical treatment of SUI, but it can serve as a prognostic factor (12,13).

CONCLUSIONS

The presence of female urinary incontinence only, without other symptoms as determined by a detailed medical history, present a clear and direct correlation with the urodynamic diagnosis of genuine SUI. On the other hand, in women who medical history shows SUI associated with urgency should be submitted to an urodynamic evaluation for evidencing detrusor functional alterations, and therefore guiding for a more appropriate treatment.

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EDITORIAL COMMENT

The interest for determination of medical history value in female urinary incontinence is due to the necessity for reduces cost generated by the urodynamic evaluation. These authors showed that with a careful interpretation of data from the medical history of patients suffering from urinary stress incontinence, an agreement with the urodynamic evaluation might be obtained in 87.5%. An agreement of 87.5% is acceptable, if invasive treatments are avoided, and in this particular case, to perform no urodynamic study seems justified. However, when

indication for surgical treatment is quite probable, the procedure should be based on the most available faithful data. Thus, 12.5% of diagnostic error seems inadvisable. Besides, it was a unanimous decision during the 2nd International Consultation in Incontinence, which occurred in Paris, 2001, that an urodynamic evaluation might be always performed before any surgical procedure for correction of the female urinary incontinence. Thus, this is a matter of prudence because it has been established previously.

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