

## AN EVALUATION OF THE DYSURIA-FREQUENCY SYNDROME IN PERIMENOPAUSAL WOMEN

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### SUMMARY

The 'dysuria-frequency syndrome' is a clinical syndrome consisting of increased frequency of micturition and dysuria, in the absence of significant bacteriuria. In the present work, 20 patients with the syndrome and 5 control cases were studied. Though the condition was mainly found in postmenopausal females, the role of estrogen deficiency could not be totally correlated. 6 patients with dysuria - frequency were found to have outflow tract obstruction while 4 patients had detrusor instability (DI) - diagnosed on the basis of urodynamic evaluation. As assessment of psychoneurotic profile showed 5 patients to be suffering from anxiety neurosis. 4 patients had atrophic vaginitis, while in one patient no cause was found. Considerable overlapping of causes was detected in 5 women. The patients with dysuria/frequency mostly report to the gynaecologists and the symptoms are, quite often, attributed to some urinary or gynaecological infection. The present study highlights that organic abnormalities of the outflow tract and even some psychological problem may be responsible for the dysuria - frequency syndrome. Proper evaluation is thus necessary to prognosticate and institute treatment.

### INTRODUCTION

The 'dysuria - frequency syndrome' is a symptom complex consisting of dysuria,

increased diurnal and nocturnal frequency, and sometimes other associated features like urgency, and postvoid fullness, occurring predominantly in non-infected females.

The condition was recognized as early

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as 1900 when Bierhoff described it as an 'irritable bladder' and 'a state in which patients exhibit an abnormal frequency in urination in the absence of pus in urine'. In 1975, on the recommendation of the Medical Research Council's Systems Board (U.K.) (1979), the name 'dysuria - frequency syndrome' was coined, replacing the old familiar name 'urethral syndrome'. The Board defined it as 'a clinical syndrome consisting of frequency and dysuria, in the absence of significant bacteriuria'. The definition of the dysuria - frequency syndrome also demands correct identification of detrusor instability, neurological disorders interfering with voiding functions, and generalised or localised diseases like cervicitis and vaginitis (Sutherst et al 1990).

While dysuria means a difficulty in passing urine - either due to a burning sensation or due to an obstruction felt while voiding, an increased frequency implies voiding more than 7 times (or more than once every 2 hrs.) during the day and more than once at night (Mundy, 1984).

The incidence is difficult to estimate as the patients present themselves to the general, gynaecological or urology outpatient departments. The condition has also a wide age spectrum. The incidence has been stated to be as high as 38% in a survey of 100 female patients of over 60 years of age (Ostergard and Bent, 1990).

While the condition is not always so severe as acute bacterial cystitis, it is a long standing problem in many patients. The syndrome sometimes interferes with her day-to-day activities seriously, disturbs her personality and interpersonal relation-

ship, at times considerably changing her psychoneurotic profile. Moreover, even after long years of quest the cause (s) remain ill-defined and varied. With the advent of urodynamics, we felt the need to make a fresh attempt to review the subject.

#### *PATIENTS AND METHODS*

The present study involved 20 women aged 35-65 years attending the urology or gynaecology departments during the 1 yr. period from April '91 to March '92 with complaints of persistent or recurrent attacks of dysuria and frequency not attributable to bacterial cystitis. A wide range of perimenopausal patients were taken as perimenopause starts from about 35 yrs. (Wentz, 1988). It was also intended to see whether there is any significant difference between pre and postmenopausal patients.

The patients were randomly selected, either married or unmarried childless or parous, premenopausal or postmenopausal - the menopause in some cases being surgical.

5 control cases were taken - all were healthy non-pregnant females.

Methodology included a thorough history - taking, clinical examination including gynaecological and a brief neurological examination. The last one included assessment of perineal sensation, anal tone and anocutaneous reflex (Kinder and Mundy, 1987).

Routine investigations included hemogram, biochemical parameters like blood sugar, urea, creatinine estimation, and chest radiography. Urinalysis followed by culture and if positive, sen-

sitivity examination was done.

Special investigations done were urodynamic evaluation, cystourethroscopy, vaginal smear study, and psychiatric assessment.

Uroflowmetry was done in every case, as a preliminary step and also to assess progress in treated cases. Cases which suggested detrusor instability were subjected to cystometry.

Cystourethroscopy was also done to find out any abnormality in bladder neck, bladder mucosa, ureteric openings and urethral lining. When other investigations suggested some positive cause and uroflowmetry was normal, cystoure-

throscopy was omitted. Thus cystourethroscopy was done in 10 cases who were suspected to have either voiding obstruction or an unstable bladder.

### STUDY RESULTS

Table I shows that elderly postmenopausal women and multiparae are the major sufferers of the syndrome. Table II analyses the symptoms. While burning type of dysuria was a much commoner complaint than a poor stream, increased diurnal as well as nocturnal frequency was complained by almost all.

Table III shows that the duration of symptoms does not correlate well with

Table I

Comparative study of pre- & postmenopausal patients with reference to age and parity

Total No.	Age group		Parity		
	Pre-menopausal 35-40 yrs.	Post-menopausal 35-65yrs.	Nulliparous	P-1	P2 or more
20 Study group	7	13*	3	1	16
5 Controls	4	1	1	2	2

\* (Of these 13) 2 had surgical and 11 had natural menopause.

Table II

An analysis of symptoms

Increased frequency 20		Dysuria 20		Other complaints		
Diurnal	Nocturnal	Poor Stream	Burning	Urgency enuresis	Nocturnal	Dyspareunia
19	19	6	14	6	1	1

the duration of menopause. This suggests the uncertain role of estrogen - deficient vaginal atrophy though majority of patients were postmenopausal.

Table IV illustrates the clinicopathological findings. Vaginitis was a common finding the postmenopausal women, especially atrophic vaginitis, diagnosed by vaginal cytological studies. The distances between the anterior margin of vaginal introitus and urethral meatus were almost

similar in comparable subjects in the study group and control group.

When uroflowmetry was done, the subjects who complained of a poor stream were found to have lower average flow rates and maximum flow rates compared to other patients and controls. This is evident from Table V and conforms with Ryall et al (1982 & 83).

Cystourethroscopy was done on ten (10) patients, under general anaesthesia,

Table III

A study of the duration of symptoms with respect to the time passed since menopause

Total No. of menopausal patients	Duration of menopause with number of patients		Duration of symptoms
	Duration	Number	
13	6 months (mth)	1	2 months
	> 6 mth - 2 yrs.	3	6 mth - 2 yrs.
	> 2 yrs. - 5 yrs.	3	4 mth - 10 yrs.
	5 yrs. or more	6	4 mth - 7 yrs.

Table IV

An analysis of clinicopathological findings

Number	Vaginitis/ Cervicitis	Cystoccele	Atrophic vaginitis	Distance between U & V* (mm)	
				Range	Mean
<b>A. Study Group</b>					
Premenopausal (7)	3	1	-	6-10	9
Postmenopausal (13)	3	-	4	3-6	5.4
<b>B. Controls</b>					
Premenopausal (4)	1	-	-	8-10	9
Postmenopausal (1)	-	-	-	5.6	5.6

\* U-V - from margin of urethral meatus to anterior margin of vaginal introitus.

Table V  
Analysis of uroflowmetry results

Voided volume	Mean average flow rates (ml/sec.)				Max. flow rates (ml/sec.)						
	Pts. with Poor Stream		Pts. with Burning		Controls		Pts. with Poor Stream		Pts. with Burning		
	No.	Values	No.	Values	No.	Values	No.	Values	No.	Values	
≤ 150 ml.	2	2.05	3	10	3	6.6	2	6	3	20.7	
> 150 ml	4	5.75	11	10.73	2	6	4	11.1	11	22.8	
											3
											2
											16.1
											11.7

on an in patient basis, since some patients could not be catheterised while conscious though they could pass urine themselves. This was possibly due to a functional spasm. Only one patient (1) had a slightly congested bladder mucosa, while 3 patients with outflow tract obstruction showed mild trabeculation of the bladder wall and one patient had meatal stenosis. Table VI illustrates the above.

Cystometry was done in 6 cases and 2 controls - in the former when there was a suggestion of detrusor instability by clinical history and by uroflowmetry. This revealed abnormal rise in detrusor pressure during the filling phase in 4 patients suggesting detrusor instability - table VII. A voiding detrusor pressure greater than 50 cm H<sub>2</sub>O was found in 2 subjects both of whom had poor stream - poor average and maximum flow rates in uroflowmetry signifying some obstruction in the outflow tract.

Cucchi (1990) suggested that when the acceleration of flow rate (maximum flow rate/time to maximum flow) is equal to, or greater than 5 ml/sec<sup>2</sup> detrusor instability (DI) is present. We did not find the correlation in total as shown in table VIII. 3 patients had acceleration rate greater than or equal to 5 ml/sec<sup>2</sup> but only two of them had urodynamically demonstrate DI. Again, in 2 cases who had low acceleration of flow rate there was also urodynamically demonstrable DI. So, for detecting DI, cystometry is essential.

When a psychiatric assessment was done by general conversation, history taking, and analysing their answers to a few set questions, 5 patients were found to have an abnormal psychoneurotic

Table VI  
Analysis of cystourethroscopy findings in 10 cases

No. of cases (10)	Bladder Mucosa				Cystoscopy findings			
	Normal	Trabeculated	Congested	Congested	Normal	Ureteric Orifices	Bladder Neck	Hypertrophied
Premenopausal 6	4	2	-	6	-	4	2	2
Postmenopausal 4	2	1	1	3	1 (Congested)	4	-	-
Total : 10	6	3	1	9	1	8	2	2

  

Urethroscopy findings		
No. of cases	Length (cm.)	Caliber in Frehch scale
Premenopausal 6	3-4	18-22
Postmenopausal 4	3-4	18-22

  

Urethroscopy findings		
Mucosa	Normal	Abnormal*
All	3	1
Nil		

\* Abnormal mucosa means presence of congestion, diverticulae or meatal stenosis.

Table VII  
An analysis of cystometry findings in filling phase

Vol. at 1st sensation	No. of Patients	No. of Controls	Vol. at Cystometric capacity	No. of Patients	No. of Controls	Abnormal detrusor Patients	Rise in Pressure Controls
< 100 ml	1	-	< 200 ml	1	-	4	Nil
100-150 ml	1	2	200-350 ml	-	-		
151-200 ml	1	-	351-500 ml	3	-		
> 200 ml	3	-	> 500 ml	2	2		

profile and were diagnosed to be suffering from anxiety neurosis. The rest 15 patients were normal (Mayer-Gross, '77, Willis, '76).

An overall analysis of the etiological factors is shown in table IX. There was, however, considerable overlapping of factors, and this required a combination of more than one mode of treatment. Table X illustrates this. One patient had cystocele and was advised operation, another dropped out and so the cause remained unknown.

#### COMMENTS

The complaint of dysuria and frequency is a common one in female subjects, specially postmenopausal females. However, the role of estrogen deficiency is indefinite. A considerable number of patients (20%) initially diagnosed as cases of dysuria - frequency syndrome on the basis of clinicopathological studies, were found to have detrusor instability when urodynamic studies were performed. Hence, urodynamics are essential for detecting cases of detrusor instability.

An assessment of the psychoneurotic profile is useful. This needs a good rapport with the patient, apart from using set questions. Institution of broad-based psychotherapy with use of specific drugs may be done, depending on the results of psychiatric assessment. Due to co-existence of more than one factor, more than one type of treatment may be required in a single case. Finally, voiding pathophysiology must be ignored as some organic abnormality of the outflow tract may be present.

A total evaluation is thus essential to

Table VIII

**A comparative study of the acceleration of flow rate and abnormal rise in detrusor pressure**

Acceleration	No. of Patients	Abnormal pressure rise	Patients with detrusor instability
$\geq$ ml <sup>1</sup> / Sec <sup>2</sup>	3	2	2
< 5 ml / Sec <sup>2</sup>	3	2	2

Table IX

**Analysis of etiological & associated factors**

Tota No.	Urinary outflow obstruction Bl. neck hyper trophy	Urethral stenosis	Indefinite	Anxiety Neurosis	Atrophic Vaginitis	DI	Indeterminate
	2	2	2				
20		6		5	4	4	1

Table X

**Mode of treatment instituted**

Cases	Treatment	Remakrs
1. Urinary outflow obstructed 6 (Assoc. DI - 1)	Urethral dilatation (done in 4 cases only)	Considerable improvement of average and maximum flow rates after 2-3 sittings of dilatation
2. Only DI - I	Propanthelene bromide thrice daily X 2-3 wks.	Considerable improvement.
3. DI with neurosis-2 (Assoc. atrophic vaginitis - 1)	Propanthelene and tri-cycloc antidepressant (amitryptiline). Estrogen vaginal cream	Improvement considerable
4. Atrophic Vaginitis only - 2	Estriol succinate orally for 3 months or more	Considerable symptomatic relief
5. Anxiety neurosis-1 (Assoc. Atrophic vaginitis - 1)	Combination of treatment	Symtomatic relief
6. Neurosis only - 2	Tricyclic antidepressant	Symptomatic relief



enable the clinician to make a planned therapeutic intervention.

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