

THE URINE DIARY IN URGENCY INCONTINENCE

Hypothesis / aims of study

The urine diary is golden standard in the diagnosis and evaluation of urgency incontinence. Our lack of knowledge on the true causes of the symptoms, and several possible sources of error in the urine diaries, has made it necessary to combine them with, more or less, complicated questionnaires.

Any sort of objective estimation of the urgency symptoms should thus be of help.

There are indications that a low grade inflammation in the urethra may result in a sensitization of the voiding reflex contributing to urgency in the Over Active Bladder syndrome (OAB)¹. Increased concentrations of Interleukin 8 (IL-8) and calprotectin - regarded as independent markers for inflammation - in the first urine portion delivered after transvaginal urethral massage, have been described.

It has also been shown that IL-8 in urine, after transvaginal urethra massage, is higher in patients with urgency than in healthy controls.

It might therefore be assumed that patients with urgency but normal IL-8 in urine experience frequent micturations because of larger urine volumes.

The current study was performed to evaluate if it may be possible to use IL-8 as an additional tool to differentiate patients with urgency from excessive liquid intake from patients with "true" urgency.

Study design, materials and methods

The material consists of 45 consecutive patients with OAB-symptoms. One patient was excluded because of bacteriuria. 2x24 h urine diaries were obtained before and after treatment.

Before treatment, a standardized transvaginal urethra massage was performed with semi-filled bladder. The patients voided for IL-8 and for bacterial culture. The mean of the initial urine volumes and sessions recorded were compared to the level of IL-8. Treatment was performed with transvaginal massage at four sessions within a fortnight.

Results

All patients complaining were included in the calculations though 10/44 patients reported < 9 sessions (1x5, 3x7 and 6x8 sessions), their history being discordant with their urine diaries.

Mean sessions in the total material was 10,5 sessions (range 5-18).

The mean diurnal volume produced in the "normal" group was 19,1 dl (n=10) and in the "high frequency group" was 25,3 dl (n=34). The difference was NOT statistically different (Students t-test).

Also in the mean IL-8 level there was NO difference between the "normal" and the "high frequency" group 225,6 and 373 ng/L respectively. (normal value < 200 ng/L).

However, the use of the normal value for IL-8 in urine (200ng/L) as "cut of", created two groups with statistically HIGHLY SIGNIFICANT DIFFERENCES in diurnal volumes; In the group with <200ng/L the mean volume was 27,6 dl (n=28) while in the patients with an elevated IL-8 concentration the mean diurnal volume was 17,9 dl (n= 16) . Corresponding mean session frequencies/24h were 10,4 and 10,6 respectively.

Interpretation of results

It has since long been obvious that the urine diaries often do not correspond to the patients' experience of her problems. In some materials 30% of patients stating urgency, in their diaries reports normal frequencies but urine leak while in other materials 50% reports no leaking at all. The cause of symptoms is obviously multifaceted and the uncertainty in the urine diary may be blamed oblivion, carelessness and/or inattention. It is also obvious that polydipsia may contribute to frequent voiding, something that tends to forgotten.

A bottle of mineral water is often a modern accessoire of the handbag.

It is highly probable that increased volumes of urine because of a higher liquid intake with higher frequency of micturition, is experienced as urgency.

The mean decrease of number of sessions after anti-inflammatory treatment was about the same as has been reported from other studies¹.

Previous studies might thus be adjusted according to possible "overtreatment" of patients with "false" urgency. A simple recommendation to limit the liquid intake may, in patients reporting urgency but without inflammatory markers in the urine, will decrease the number selected for further therapy.

Concluding message

It seems highly possible that an inflammatory reaction in the urethra contributes to symptoms in OAB.

IL-8 in urine after transvaginal urethra massage may be used as an additional tool in the evaluation of urgency in women.

References

1. 1. Lofgren O Neurology and urodynamics 2009:28,812

Disclosures

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