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MAXIMUM WARNING TIME – A NEW PARAMETER IN THE ASSESSMENT OF WOMEN WITH URINARY INCONTINENCE?

Aims of Study

Overactive bladder syndrome (OAB) is defined as the presence of urgency, with or without urge incontinence, usually with frequency and nocturia (ICS 2002). The conditions include patients to whom the main problem is to reach the toilet in due time. To our knowledge no validated instrument measuring the time to void has ever been described. The aim of this study was to measure maximum warning time in women with urinary incontinence.

Methods

We performed an observational and prospective study including 10 women with urodynamic urge incontinence, 10 women with urodynamic stress incontinence, and 10 women with no voiding complaints (controls). Two special trained nurses performed all urodynamics with patients in the sitting position using infusion of saline at a temperature of 37 degree Celsius into the bladder at a medium-filling rate (50 ml/min). Two 5-F catheter was used, one for infusion and one for measurement of the bladder pressure, respectively. A Ch 8 catheter was placed in the rectum to measure abdominal pressure. Data on women's age, availability to a toilet, occurrence of disability, voiding symptoms, urodynamic diagnosis, and voiding diary was used. The voiding diary comprised registration of daily fluid intake, voidings for 48 hours with indications of time, incidental leakage, and warning time defined as the time interval between a normal sensation to void and the time of voiding or leakage. For this purpose women received a stopwatch. Methods, definitions and units conform to the standards recommended by ICS. Maximum warning time was defined as the maximum time interval between a normal sensation to void and the time of voiding or leakage for the observed 48 hours.

Results

In the three study groups age were 62 years, 60 years, and 39 years, respectively. All but two women (one with urodynamic urge incontinence and one with urodynamic stress incontinence) had daily diuresis less than 2800 ml. Six women with urodynamic stress incontinence complained of urgency and/or urge incontinence. In each patient warning time was measured 4-18 times (median: 10 times). Median maximum warning time was 24 seconds (17-180 seconds) in women with urodynamic urge incontinence, 58 seconds (15-930 seconds) in women with urodynamic stress incontinence, and 2,495 seconds (300-6,840seconds) in controls, respectively ($p < 0,0001$). The association is depicted in the following graph showing 90% percentiles, 95% SI- interval and the median:

Conclusions

Although the difference in median maximum warning time among groups was statistical significant the diagnostic potential of maximum warning time is questionable. Firstly, due to a large variation in the range observed. Secondly, because the de facto difference between warning times in urodynamic stress incontinence and urodynamic urge incontinence only was 34 seconds. It remains to be shown if warning time could be useful as a diagnostic tool in the assessment of intra-individual changes, i.e. before and after treatment.

