

## IS THE OCCURRENCE OF LOWER URINARY TRACK SYMPTOMS AFFECTED BY MENOPAUSAL TRANSITION OR ASSOCIATED WITH THE NORMAL AGING PROCESS?

### Aims of Study

Lower urinary tract symptoms and dysfunctions are prevalent in the older population. Whether the increasing occurrence of lower urinary tract symptoms is independently influenced by the transition from pre- to postmenopause or by the interactive and additive effects of age associated changes in bladder and urethral function is still not clearly understood. The aims of this study were to assess 1) the occurrence of storage and voiding symptoms as a result of menopause; or 2) the prevalence of various symptoms significantly associated with the normal aging process.

### Methods

We randomly sampled women from a community-based health population and asked participants to reply to the Bristol Female Urinary Tract Symptoms Questionnaire<sup>1</sup> regarding storage symptoms and voiding dysfunction. A preliminary pilot study of 15 cases was carried out before the interviews took place to ensure the validity of the questionnaire. A test and retest were conducted with a two weeks interval between tests. The correlation coefficient for the questionnaire (symptoms and related items) was  $r = 0.87$  ( $p < 0.05$ ). A positive response to these voiding dysfunction symptoms was determined by the patients' perceptions. The chi-square test was used to compare the prevalence of different symptoms among birth cohorts and to compare the occurrence of voiding and storage symptoms between pre- and postmenopausal women. The Cochran-Armitage trend test was used to test for a trend between an age cohort and the prevalence of various symptoms. A p-value of less than 0.05 was considered to be a statistically significant difference. SAS software (SAS Institute Inc. NC, USA) version 8.0 was used for the data analysis. All of the terminology was defined by ICS criteria<sup>2</sup>.

### Results

Figure I: Prevalence of storage symptoms according to patients' perceptions.

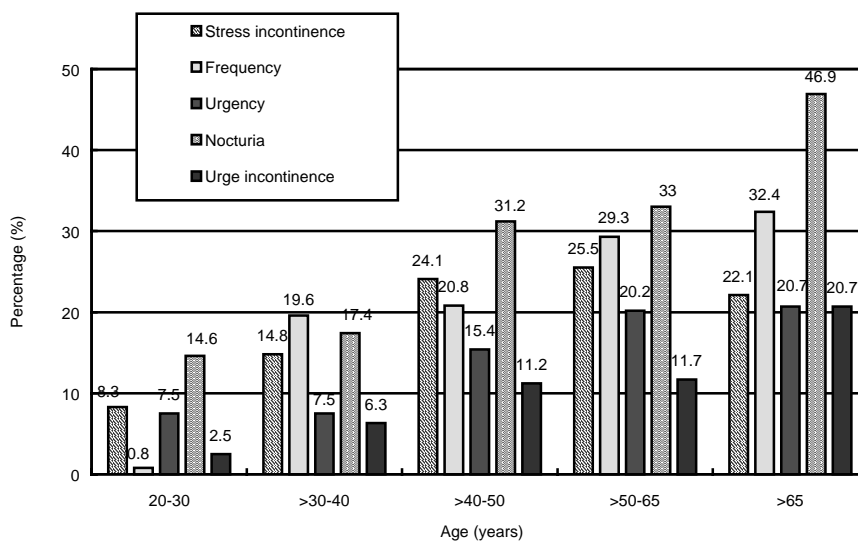
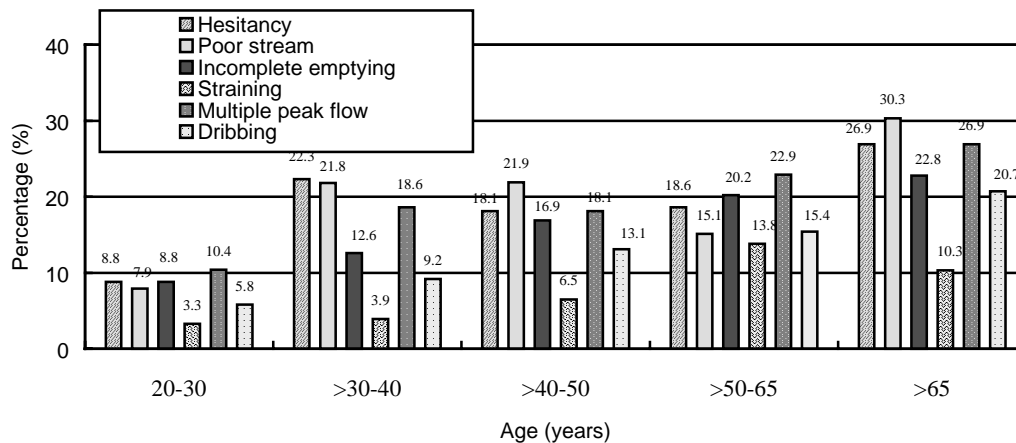


Figure II: Prevalence of voiding symptoms according to patients' perceptions.



The prevalence of frequency, urgency, nocturia, and urge incontinence in premenopausal and menopausal groups were 18.0% vs. 29.8%, 9.8% vs. 20.7%, 21.2% vs. 38.2% and 6.8% vs. 15.7%, respectively, (all  $P < 0.05$ ). The prevalence of hesitancy, poor stream, incomplete emptying, voiding with abdominal straining, discontinuous urine flow, and dribbling of premenopausal and menopausal groups were also significantly different (17.2% vs. 22.9%, 17.8% vs. 25.7%, 12.7% vs. 21.9%, 4.9% vs. 11.6%, 16.2% vs. 24.5%, and 9.4% vs. 17.6%, respectively, all  $P < 0.05$ ). However, the occurrence of various voiding symptoms were also significantly associated with the normal aging process. Our results revealed that the prevalence of storage and voiding symptoms in menopausal women were significantly different from that of premenopausal women and the trend of other various symptoms occurring were also significantly associated with the normal aging process. The prevalence of stress urinary incontinence increased with the age up to the fifth decade of life followed by a decline thereafter.

## **Conclusions**

This phenomenon implies that the increasing occurrence of urinary and voiding dysfunction is not only affected by the transition from pre- to postmenopause but is also closely associated with age associated changes in bladder and urethral function<sup>3,4</sup>.

## **References**

1. The Bristol female lower urinary tract symptoms questionnaire: development and psychometric testing. *Br J Urol* 1996; 77:805-812.
2. The international Continence Society Committee on Standardisation of Terminology: the standardisation of terminology of lower urinary tract function. *Scand J Urol Nephrol* 1988;114 (suppl):5-19.
3. Etiology of incontinence: a review and hypothesis. *Scand J Urol Nephrol*1996; 179 (suppl):15-25.
4. Characterisation of detrusor contractile function in relation to old age. *Br J Urol* 1993; 72:873- 880.