NOCTURIA IN THE ELDERLY: AGE DIFFERENCES IN MAXIMUM CYSTOMETRIC CAPACITY

Hypothesis / aims of study
The relationship between bladder capacity and first sensation of bladder filling during CMG as it relates to patient reported nocturia has been poorly explored. In this study we investigated the relationship between patient reported nocturia versus maximum cystometric capacity (MCC) and first sensation of bladder filling (FSBF) in men ≥ 60 and those < 60 years of age.

Study design, materials and methods
We have electronic charts on all patients who have undergone Conventional Urodynamic Studies from 1996-2006 at our institution contained in an urodynamic (UD) database. Using this data base, MCC and volume at FSBF were cross-referenced with the degree of nocturia reported by men ≥ 60 and < 60 years of age. Mean and standard deviation for MCC and FSBF were then determined for each level of nocturia in both groups of men. A one-way ANOVA (p<0.05) was applied to each level of nocturia to determine statistical significance.

Results
There were 888 consecutive patients identified in the UD database (498≥60, 390<60). First sensation of bladder filling correlated with severity of nocturia in both older and younger patients (p<0.0001 and p<0.0247 respectively). Maximum cystometric capacity only correlated with severity of nocturia in men ≥ 60 years of age (p<0.0001).

Figure 1: Age ≥ 60

Figure 2: Men < 60

Figure 3: Men ≥ 60
Interpretation of results

This is the first large study to demonstrate that decreased maximum cystometric capacity correlates at all levels of severity of nocturia in men \( \geq 60 \) but not in the younger male. Nocturia in males has long been attributed to nocturnal polyuria with decreased bladder capacity playing a smaller role.\(^2,3\) However, this study demonstrates that decreased bladder capacity as measured by MCC, plays a major role in patient reported nocturia in the aging male. In addition, first sensation of bladder filling occurs at lower levels especially in men \( \geq 60 \) likely as a function of decreased bladder capacity.

Concluding message

Decreased bladder capacity as measured by MCC, plays a major role in patient reported nocturia in the aging male.

References

1. Urology (2006 March) 67 (3); 541-4.

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HUMAN SUBJECTS: This study was approved by the Capital District Health Authority Research Ethics Board and followed the Declaration of Helsinki. Informed consent was not obtained from the patients.