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DESCRIPTION OF URODYNAMIC PARAMETERS IN DIABETIC WOMEN WITH URINARY INCONTINENCE

Hypothesis / aims of study

To evaluate detrusor overactivity, bladder sensation, and detrusor contractility in women with well characterized type II diabetes from an ethnically diverse population based cohort.

Study design, materials and methods

Of the 203 women with type II diabetes (diabetes duration 11.1± 9.9 years) in the Reproductive Risks for Incontinence Study at Kaiser Permanente Medical Group, 48 women (mean age 62.1 years) from a consecutive sample, volunteered to undergo urodynamic testing. Measurements of urinary incontinence were obtained via self-report questionnaires, in person interviews, physical examination and standard urodynamic evaluation. In addition, extensive diabetes measures including duration, treatment, glycemic control, complications of diabetes, and laboratory data were also obtained.

Results

With regards to parameters of diabetic severity, 35 out of 48 women were using insulin for glucose control and overall had a mean hemoglobin A1C (HbA1C) of 8.5. Retinopathy was present in 11% of the women. The group's mean Michigan neuropathy screening instrument score (MNSI), a validated instrument using both self questionarre and physical exam to screen for the presence of diabetic neuropathy, was 2.9. Only 38% of the 48 women reported weekly or greater incontinence, and only 23% had Sandvik severity scores of severe or worse. The subjective reported voiding symptoms were primarily mild, with 50% of the International Prostate Symptom Score less than 7 (mean 7.8 + 6.3). The mean bladder capacity was 250±50ml with only 5% of women having a capacity > 550cc. In looking at evidence of abnormal bladder sensation, 16% of women reported first desire to void at less than 100cc and 24% reported first desire at greater than 250cc. The average post void residual (PVR) was 61.8cc, but 19% of women had PVR > 100cc with only 3 women demonstrating PVR> 250cc. The mean average flow rate was 10.2 + 6.0 ml/sec. Evidence of detrusor overactivity was noted in only 3 women.

Interpretation of results

This data suggest that diabetic women can present with variable pathophysiology of voiding dysfunction that does not necessarily fall into the classical definition of diabetic cystopathy. Even with minimal subjective complaints, our cohort demonstrated impairment of bladder sensation and detrusor contractility, but this is also unpredictable.

Concluding message

It is, therefore, important to thoroughly evaluate diabetic patients who has urinary incontinence with urodynamic testing prior to the initiation of treatment.

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HUMAN SUBJECTS: This study was approved by the University of California San Francisco Committee on Human Research and San Francisco Kaiser Permanente Group Ethics Committee and followed the Declaration of Helsinki Informed consent was obtained from the patients.