

## DIAGNOSTIC TESTING IN INCONTINENT MALES WITH BPH.

### Hypothesis / aims of study

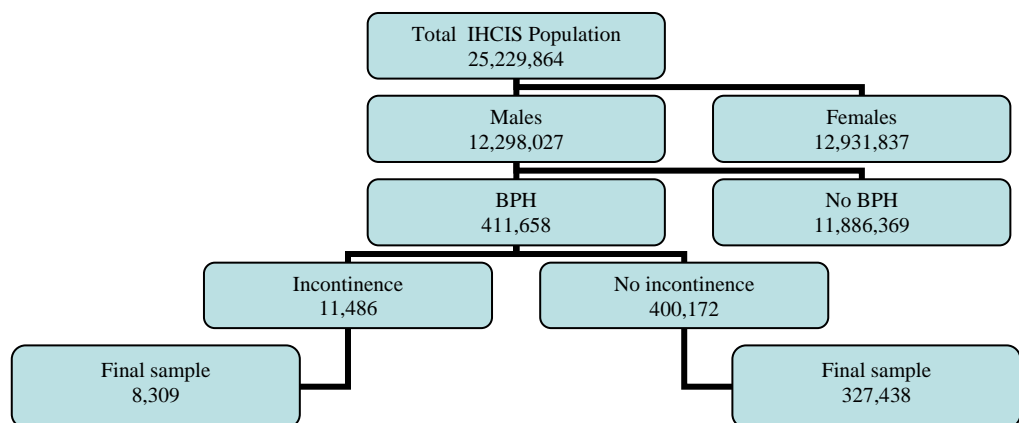
Incontinence related to benign prostatic hypertrophy (BPH) is a relatively rare problem, however the association between BPH and overflow and urge incontinence are well described. The aim of this study was to investigate the prevalence of incontinence in a cohort of men with a diagnosis of BPH

### Study design, materials and methods

The Integrated Healthcare Information Services National Managed Care Benchmark Database (IHCIS) includes information on 33 million patients in the US over the period 1997-2003. Data were extracted based on ICD9 codes for BPH (220.xx and 600.xx) and incontinence (788.3x). Patients were excluded from the analysis for the following reasons:  $\geq$  60 day gap in insurance coverage by IHCIS; if enrolled in the database less than 90 days after the first diagnosis of incontinence; or enrolled in the data less than 1 yr after the first record of BPH. Comorbid conditions (depression, multiple sclerosis, stroke, Parkinson's disease, Alzheimer's disease, bladder cancer, prostate cancer, spinal cord injury, spinocerebellar disease, anterior horn cell disease, other diseases of spinal cord, diabetes, hypertension, neurogenic bladder not otherwise specified), diagnostic testing, as well as BPH-related surgical interventions (laser, open prostatectomy, TURP, TUIP, TUMT, TUNA) were summarized.

### Results

411,658 males with BPH were identified. Of these, 8,309 males with incontinence and 327,438 males without incontinence were included in the final analysis. Those of 8,309 (2.0%) males with incontinence had the following incontinence diagnoses: unspecified, urge, stress, mixed incontinence, leak, post void dribble, nocturnal incontinence.



The prevalence of incontinence was higher in older men (see table). More than half (55.4%) of the incontinent BPH population was  $\geq$  65 years old. Unspecified incontinence (40.3%) was the commonest type among the 8,309 incontinence males, which was followed by urge incontinence (26.7%). The least common types of incontinence were nocturnal incontinence (1.8%), and post void dribble (4.1%). Among the 8,309 incontinent males, 45.3% (n=3766) had at least one comorbidity or was receiving a medication for treatment of a comorbidity. The most prevalent comorbidity was hypertension (n=657, 17.4%). Only 3.0% of incontinent males had a claim for a diagnostic test (uroflow, Post Void Residual, or Cytometrogram). The rate of diagnostic test was the highest (3.6%) for nocturnal incontinence among all types of

incontinence, which was followed by continuous incontinence (3.56%), and post void dribble (3.32%). For men with other incontinence codes, the rate was less than 3%. The rate of BPH-related surgery in the 8,309 incontinent males was about 12.9%. All BPH-related surgical claims were present in the database prior to a ICD9 diagnosis code of incontinence. Among post surgery incontinence types, mixed incontinence was the commonest (15.16%).

Table: Prevalence of incontinence in BPH population

Age	Incontinence		Total	Rate of incontinence in the BPH pop (%)
	Yes	no		
< 44	364	19581	19945	1.8
45-54	938	74006	74944	1.25
55-64	2405	133190	135595	1.77
65-74	2138	67861	69999	3.05
75+	2465	32800	35265	6.99
Total	8309	327438	335747	2.47

Interpretation of results

1. Diagnosis for incontinence in the male BPH population is higher in older men. 2. Few patients with incontinence undergo formal urodynamic evaluation. 3. The type of incontinence was mainly empirically diagnosed. 4. Post surgical incontinence appears to be higher than the generally accepted rates for post surgical incontinence. 5. The exact type of incontinence in this population is unknown due to lack of formal testing.

Concluding message

These results may have consequences for the adequate management and outcomes in men with incontinence and BPH prior to and after surgery.

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