

## MEDICAL COMORBIDITIES INCREASE THE RISK OF URINARY RETENTION FOLLOWING ANTIMUSCARINICS IN PATIENTS WITH BPH

### Hypothesis / aims of study

Antimuscarinics for overactive bladder may increase the risk of urinary retention (UR), especially for men with benign prostatic hyperplasia (BPH). We suspect that the risks of UR may be even higher for patients with comorbidities potentially affecting voiding function. We investigated the effects of comorbidities on the occurrence of UR following antimuscarinics for patients with BPH by analyzing a nationwide database.

### Study design, materials and methods

A urology dataset including 3,433,230 individuals was selected from the National Health Insurance Research Database (NHIRD) of Taiwan for the year 2006 to 2010. Male patients more than 40 years old with a clinical diagnosis of BPH (ICD-9-CM code 600.0) and the use of available antimuscarinics in Taiwan for more than 2 weeks were enrolled. Patients receiving procedures that might cause UR such as intravesical therapy, endourological procedures, urodynamic study and prostate biopsy during antimuscarinics treatment were excluded. UR was identified by the coding of urinary catheterization in the claim data during the medication period. The comorbidities investigated included diabetes mellitus (DM), stroke, spinal stenosis, and Parkinson's disease and were identified using individual ICD-9-CM code. The prevalence (%) of each comorbidity was compared between the 2 groups: Group A-no urinary retention, Group B- with urinary retention.

### Results

There were 87,439 patients having a diagnosis of BPH and using antimuscarinics. Of them 4,157 developed UR during the period of antimuscarinics usage. The incidence of UR was 4.75%. The prevalence (%) of DM, stroke, spinal stenosis, and Parkinson's disease was significantly higher in Group B ( $p=0.035$ ,  $<0.001$ ,  $0.002$ ,  $<0.001$  respectively)(figure 1)

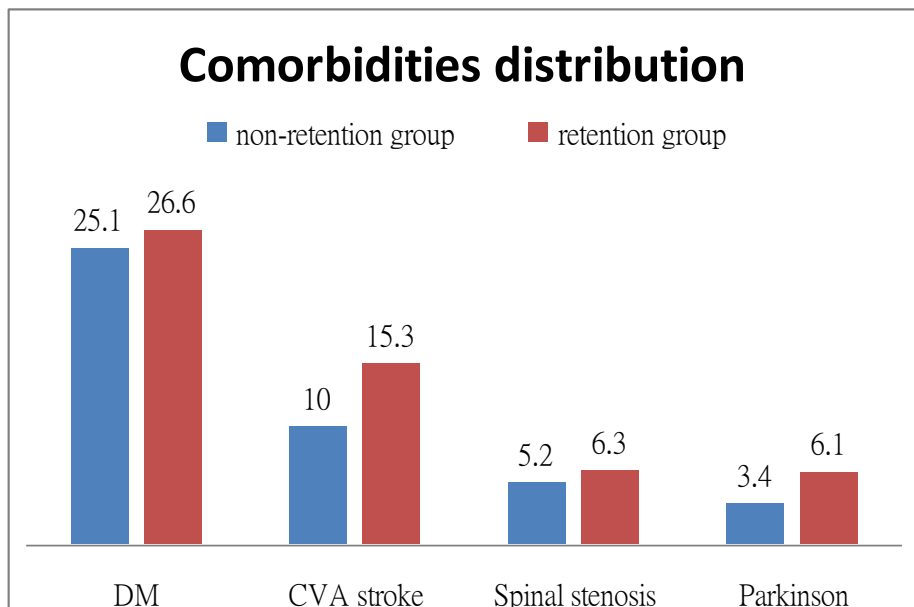
### Interpretation of results

DM, stroke, spinal stenosis, and Parkinson's disease may affect lower urinary tract function. Using antimuscarinics on these patients further affect voiding function, especially for patients with BPH.

### Concluding message

The prevalence of DM, stroke, spinal stenosis, and Parkinson's disease was higher in the BPH patients developing UR following antimuscarinics. The prescription of antimuscarinics in patients with BPH and comorbidities that may affect voiding function should be very cautious.

Figure 1. The prevalence of DM, stroke, spinal stenosis, and Parkinson's disease was higher in the BPH patients developing UR following antimuscarinics.



### Disclosures

**Funding:** NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** This is a nation-wide anonymous database. IRB approval for such type analysis is not required in our country. **Helsinki:** Yes **Informed Consent:** No