

## **IS THERE SEASONALITY OF URINARY RETENTION IN PATIENTS WITH BPH?- A NATION-WIDE STUDY**

### Hypothesis / aims of study

Classical urology teaching holds that cold weather may increase alpha adrenergic activity and predispose to urinary retention (UR) in patients with benign prostatic hyperplasia (BPH). Therefore, there should have more urinary retention in winter time. However, few literatures exist to demonstrate this phenomenon. We examined this hypothesis by investigating seasonal occurrence of UR in men with BPH by analyzing a nation-wide 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. Their claim data was used for the study. Patients more than 40 years old with a clinical diagnosis of BPH (ICD-9-CM code 600.0) were enrolled. Patients receiving procedures that might cause UR such as intravesical therapy, endourological procedures, urodynamic study and prostate biopsy were excluded. The patients had regular replacement of urethral catheter were also excluded. UR was defined as the coding of the procedure of urinary catheterization in the claim data during the study period. The UR rate was determined and compared between each season: Spring - March to May, Summer - June to August, Autumn - September to November, Winter-December to February. We also examined the effects of comorbidities which potentially affect voiding function on the seasonal occurrence of UR. The comorbidities investigated included diabetes mellitus (DM), stroke, spinal stenosis, and Parkinson's disease.

### Results

The UR rates were higher in summer and autumn in each year. (Figure) The median UR rate from 2006 to 2010 for each season was: Spring – 4.9%, summer – 5.4%, autumn – 5.5%, winter – 5.1%. After excluding the patients with comorbidities, the median UR rate for each season was: spring – 3.7%, summer – 4.3%, autumn – 4.5%, winter – 4.1%. While excluding comorbidities that may affect voiding function, the UR rate became lower but the seasonality kept the same.

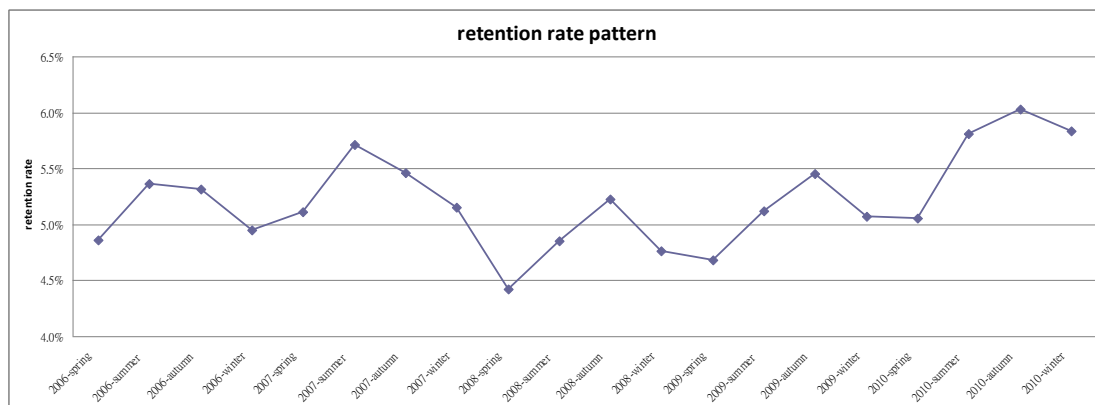
### Interpretation of results

To our surprise, in Taiwan the UR rate is higher in summer and autumn, not in winter. One explanation might be that the winter temperature in Taiwan is not low enough to greatly increase alpha adrenergic activity of the prostate to cause UR. But it is still difficult to explain why UR rate is consistently higher in summer and autumn.

### Concluding message

There is seasonality for the occurrence of UR in patients with BPH. The UR rates in summer and autumn are higher. Further study is required to identify the causes for such seasonality and to investigate whether similar seasonality occurs in areas with colder climate.

Figure. Seasonal variation of urinary retention rate in men with BPH



Disclosures

**Funding:** NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** IRB approval is not required for nation-wide insurance database study in our country. **Helsinki:** Yes **Informed Consent:** No