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THE CO-MORBIDITIES IN THE FEMALE OUTPATIENTS WITH ACUTE URINARY RETENTION – A NATION-WIDE STUDY

Hypothesis / aims of study
Obviously different from male patients, there might be much more diverse set of causes resulting in female acute urinary retention (AUR). However, epidemiological research is uneasy and the natural history of the various underlying conditions is lack of fully understanding. We conducted this study to investigate what were the most co-morbidities of AUR occurred in female outpatients.

Study design, materials and methods
The subset of the National Health Insurance Research Database (NHIRD) of Taiwan contains data on all outpatient and inpatient medical benefit claims and covers more than 99% of Taiwan populations. In this research, we use the database of those patients who visited urological outpatient clinic. According to claim codes of Foley catheter insertion, all female patients received Foley catheter insertion in the period from January 2007 to December 2010, were recruited. Before the episode of AUR, those outpatients with previous invasive procedures, like urodynamic study, cystoscopic exam, vaginal and urethral operation were excluded. After recruiting the outpatient group with AUR, control group was matched by age under the ratio of 5 to 1. ICD-9 diagnostic codes for Charlson co-morbidities of these two groups were recorded and applied for analysis in recent one year before the episode. The incidence of dementia (290.X), myocardial infarction (MI) (410.X, 412.X), Congestive heart failure (CHF) (428.X), diabetes mellitus (DM) with or without complication, (250.0 to 250.7), neurological diagnostic codes of cerebrovascular event (CVA) (430,431,432.X,433, 434.X,436-438), spinal stenosis (SS) (724.0X, 723.0), herniation of intervertebral disc (HIVD) (722.0X, 722.1X,722.2X,722.4X,722.5X, 722.6X, 722.7X). The difference between these two subgroups was analyzed by qui-square and logistic regression model.

Results
Among the total numbers of overall female patients who visited urological clinics (n =1,238,038), 8615 (0.69%) patients received Foley catheter insertion from January 2007 to December 2010. Of 8615 patients with mean age 65.67 years old who received catheter insertion, 2434 (28.25%) repeated AUR more than once. The incidence rate of co-morbidities, such as dementia, MI, CHF, DM, CVA, SS, HIVD, diagnosed in the one year before AUR episode were 7.37%, 0.59%, 7.57%, 27.47%, 14.39%, 2.34%, 2.59%, respectively. The comparison between AUR group and age-matched control group by logistic regression was shown in Table 1.

Interpretation of results
Patients with AUR episode have significantly more co-morbidities, like dementia, CVA event, DM, MI and CHF than control group.

Concluding message
This research initially revealed that patients with one or more episodes of AUR have significantly larger quantities of co-morbidities, like dementia, CVA event, DM, MI and CHF. In other words, patients with more co-morbidities tend to concur with AUR in one year.

Table 1. Comparison of co-morbidities disease occurred one year before AUR between two subgroups**

	OR	95% confidence limit	p-value*
MI	1.426	1.012~2.008	0.0425
CHF	1.624	1.464~1.801	<.0001
DM	2.137	2.017~2.265	<.0001
Dementia	2.926	2.613~3.276	<.0001
CVA	2.791	2.582~3.017	<.0001
Spinal stenosis	1.131	0.961~1.331	0.1375
HIVD	1.034	0.887~1.205	0.6675

*: Compared by using logistic regression,
**: Reference is negative for co-morbidities

References
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