

THE EFFECT OF STATINS ON THE RISK OF ACUTE URINARY RETENTION AND RECEIVING TRANSURETHRAL RESECTION OF PROSTATE IN OUTPATIENTS OF GENITOURINARY CLINIC – THE RESEARCH BY USING NATION-WIDE POPULATION BASED DATABASE

Hypothesis / aims of study

It was previously published that statins significantly reduced prostate volume, improved lower urinary tract symptoms, and slowed the clinical progression of BPH. Consequently in the research, we apply the national database to investigate whether the statins reduces the risk of acute urinary retention (AUR) and receiving transurethral resection of prostate (TURP) in the outpatients of genitourinary clinic.

Study design, materials and methods

The subset of the National Health Insurance Research Database (NHIRD) of Taiwan contains data on all medical benefit claims and covers more than 98% of Taiwan populations. A urology dataset including 3,431,366 individuals was selected from the National Health Insurance Research Database (NHIRD) for the year 2006 to 2010. Their claim data were used for the study. We recruited the patients with the ICD-9 diagnostic code of 600.X (except 600.3) twice in 3 months, from the time of 2006 July to 2008 June. All patients with the diagnosis of prostate and bladder cancer were excluded. The medication of all statins, α -blockers, and 5 α reductase inhibitors were reviewed and must be prescribed by urologists at outpatient department for more than 3 months. In this research, there are two primary endpoints, AUR and TURP after taking all statins, α -blockers, and 5 α reductase inhibitors was recorded. For checking AUR, all patients who receive invasive procedures, such as transurethral surgical interventions, cystoscopic exam, urodynamic study, before AUR were excluded. We used a conditional logistic regression to compute the odds ratio (OR) for having previously used statins among all groups.

Results

Among the overall 3,431,366 individuals who visited urology outpatient clinic during 2006 to 2010, 203,281 patients were recruited after excluding the history of receiving procedures. Among these patients, 13,048 (6.42%) taking statins and 86,134 (42.37%) taking α -blockers and/or 5 α reductase inhibitors. Additionally, there are 50,262 patients (24.73%) noted to have AUR after medication during follow-up. As for evaluation of TURP, 198,486 patients were recruited without the diagnosis of dementia, cerebrovascular disease, and myocardial infarction before recruitment. In addition, 21,684 (10.92%) received TURP after medication. In the group of statins users, the percentage (10.47%) of receiving TURP in patients with medication of α -blockers and/or 5 α reductase inhibitors is significantly lower than that (11.84%) of patients without α -blockers and/or 5 α reductase inhibitors ($p < 0.001$). Inconsistently in statins users with occurrence of AUR, the percentage of AUR showed no significant difference between patients with and without BPH medication. Conversely in the group of non-statin users, the percentage (5.14%) of receiving TURP in patients with medication of α -blockers and/or 5 α reductase inhibitors is significantly higher than that (3.08%) of patients without α -blockers and/or 5 α reductase inhibitors ($p < 0.001$). In the patients with BPH medication, the odds ratio of occurrence of AUR and receiving TURP of statins users (non-statin users as the reference value) is 0.57 and 0.48, respectively ($p < 0.01$).

Interpretation of results

In the both groups of non-BPH or BPH medication users, the risk of occurrence of AUR and receiving TURP in patients with medication of statins is significantly lower than that of patients without statins ($p < 0.001$).

Concluding message

In this research, the patients with statins use have lower risk to have AUR and receive TURP, even in the occasion without any BPH medication.

Table 1. The odds ratio of occurrence of AUR and receiving TURP between different subgroups

	AUR			TURP		
	Adjust OR	95% CI	p value	Adjust OR	95% CI	p value
BPH medication v.s. no BPH medication	0.89	0.80-0.99	<.001	1.49	1.21-1.83	<.001
Statins user v.s. non-statin user	0.57	0.53-0.61	<.001	0.48	0.43-0.53	<.001

Disclosures

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