

RISK FOR HIP FRACTURE DUE TO ALPHA BLOCKER TREATMENT IN KOREAN WOMEN: NATIONAL HEALTH INSURANCE DATABASE STUDY

Hypothesis / aims of study

Women, especially old women more frequently suffer from orthostatic hypotension or dizziness related to alpha blocker use than do men. Although there is increasing prevalence of female voiding dysfunction with treatment of alpha blockers, no studies have focused the side effects by alpha blockers in women. We evaluated the risk for hip fracture associated with adverse drug reactions caused by α 1-adrenergic (alpha) blockers to treat female voiding dysfunction.

Study design, materials and methods

Information from the Health Insurance Review and Assessment Service database from January 1, 2008 to December 31, 2012 was used. Women patients with voiding dysfunction who received a prescription for an alpha blocker following a hip fracture were the cases. The 30-day control period was defined as 360 days before administration. The standardized incidence ratio and hazard ratio for the risk of hip bone fracture as related to alpha blocker use were analyzed.

Results

The study cohort included 287,383 subjects having a mean age of 65.1 ± 9.7 years in the study cohort. A total of 170 and 79 hip fracture cases were diagnosed in the hazard period and control period, respectively. The incidence of newly diagnosed hip fractures per 100,000 person-years was 763.4 in the hazard period and 348.5 in the control period. The hazard ratio for hip fracture after use of an alpha blocker was 2.19 (95% confidence interval, 1.74–2.77).

Interpretation of results

HR varied among the alpha blockers. Doxazosin and tamsulosin showed significant HR for hip bone fracture (HR = 2.93 and 2.30, respectively; $p=0.003$ and <0.001 , respectively). According to procedure codes, there was no significant difference of the incidence of hip bone fracture in the hazard and control periods. The incidence rate of hip fracture among higher dose medications in the control period was 418.3 per 100,000 person-years, compared to 326.2 per 100,000 person years for lower doses. HR of hazard period compared to control period for hip bone fracture in higher and lower doses was 1.90

Concluding message

Alpha blockers to treat voiding dysfunction may increase the risk for fracture in women elderly patients. Considering the vulnerability of elderly women patients to hip bone fracture and the relatively high use of alpha blockers in elderly womens with voiding dysfunction, alpha blockers should be prescribed with caution.

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Soonchunhyang University Hospital **Helsinki:** Yes **Informed Consent:** No