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The Risk Factors for Acute Kidney Injury in Urinary Tract Infection Patients from nursing home in Korea

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Objectives: As the number of geriatric patients increases, many nursing homes are created and geriatric patients are hospitalized there. Few studies have examined the risk factors for acute kidney injury (AKI) and outcomes of urinary tract infection (UTI) patients from nursing homes. We compared the outcomes of nursing home patients and non-nursing home patients admitted due to urinary tract infection and examined the factors that could have effects on risk factors for AKI.

Methods: We retrospectively analyzed data from patients hospitalized with UTI in Bucheon St. Mary's hospital between March 2017 and March 2018. The Kidney Disease Improving Global Outcomes classification was used to diagnose and classify patients developing AKI. Severe acute kidney injury was defined as stage 2 and 3. To determine risk factors for AKI, univariate and multivariate logistic regression analysis was employed.

Results: Of the 268 patients, 24 (9.0%) were male, 244 (91.0%) were female, and the mean age was 62.5 ± 1.2 years (17-97 years). 60 patients (22.4%) came from nursing home and 22 patients (8.2%) had indwelling devices. AKI occurred in 51.5% of patients. Risk factors for severe AKI were male (OR=6.25, (95% CI: 2.08-18.80), $P=0.001$), Coronary artery disease (CAD) (OR=4.76, (95% CI: 1.15-19.64), $P=0.031$), taking ARB or ACEi (OR=3.94, (95% CI: 1.49-10.41), $P=0.006$), and nursing home (OR=4.80, (95% CI: 1.58-14.54), $P=0.006$). Analysis of risk factors for severe AKI in elderly patients (Age \geq 65 years old) showed that only nursing homes showed a meaningful OR (OR=4.00, (95% CI: 1.17-13.64), $P=0.027$).

Conclusions: Male, taking ARB or ACEi and bacteremia are thought to be risk factors of AKI. Male, CAD, taking ARB or ACEi and nursing home are thought to be risk factors of severe AKI. Nursing home is the risk factor of severe AKI in elderly patients. The indwelling device is not a risk factor for AKI in UTI patients.