

# Association Between Influenza Vaccination and Reduced Risk of Acute Kidney Injury Among the Elderly

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## Abstract

**Background:** Several cases of renal complications including acute kidney injury (AKI) after influenza vaccination have been reported, but the association remains unproven. We evaluated the association between influenza vaccination and AKI occurrence among the Korean elderly in the 2018–2019 and 2019–2020 seasons. **Methods:** We used a large database that combined vaccination registration data from the Korea Disease Control and Prevention Agency and the claims data from the National Health Insurance Service. The study subjects were patients hospitalized with AKI for the first time following vaccination among those who received one influenza vaccine in the 2018–2019 or 2019–2020 season. Only those who were 65 or older at the date of vaccination were included in our study. We performed a self-controlled case series study in which the risk period was designated as 1 to 28 days after vaccination, and the observation period as each influenza season. We conducted sensitivity analyses with varied risk periods and observation periods. **Results:** A total of 16,713 and 16,272 AKI events were identified during each influenza season. The adjusted incidence rate ratio (aIRR) for AKI was 0.83 (95% confidence interval [CI]= 0.79–0.87) in the 2018–2019 season. The IRR of the 2019–2020 influenza vaccination was similar to the 2018–2019 season (aIRR=0.86; 95% CI=0.82–0.90). Sensitivity analyses showed similar results. **Conclusions:** We suggest that influenza vaccination is associated with a lower risk of AKI in the elderly over 65.

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