KSN 2018
Seoul, Korea · May 17 - 20

Abstract Type : Oral
Presentation No. : OR 02 AK-11

Epidemiology of continuous renal replacement therapy in Korea: Results from the national health insurance service claims database from 2005 to 2016

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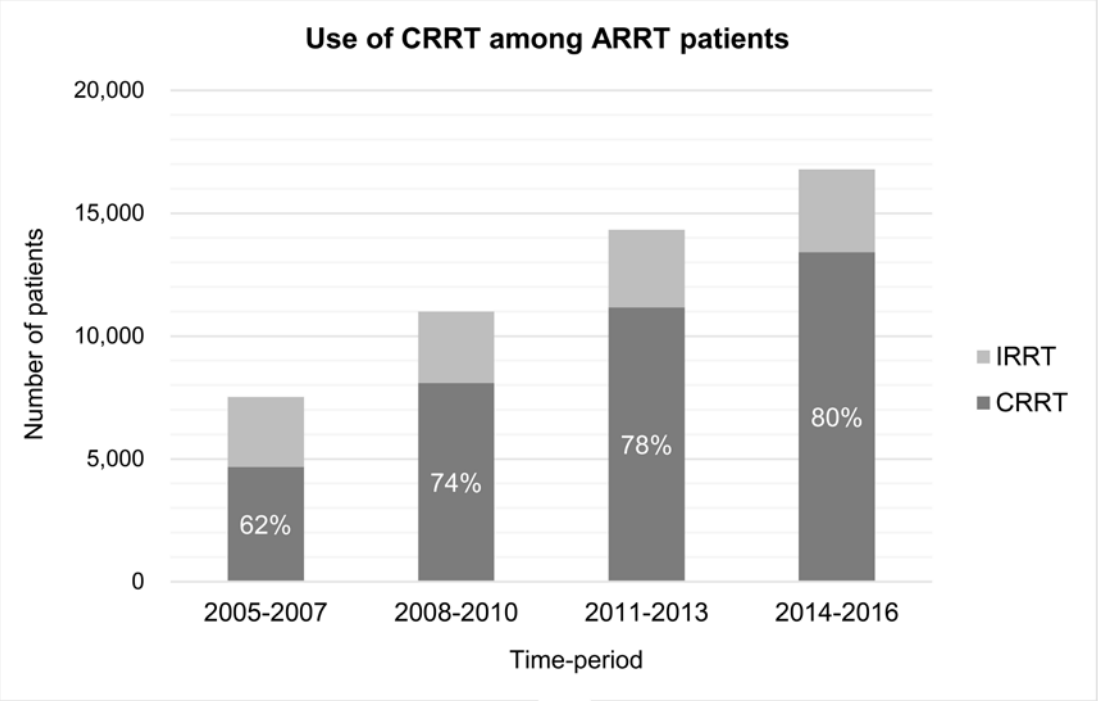
Objectives: Continuous renal replacement therapy (CRRT) is an important treatment modality for severe acute kidney injury. Epidemiology of CRRT in Korea needs further investigation.

Methods: We conducted a nationwide, population-based study analyzing the claims data from national health insurance service of Korea. All index ICU admission cases in government-designated tertiary referral hospitals in Korea, with CRRT for more than 24 hours, from 2005 to 2016 were included. Patients with history of renal replacement therapy or age under 20 were not considered. Addition to baseline and treatment characteristics, patient outcomes, including all-cause mortality and renal survival, were investigated. We stratified the study patients according to 3-year time periods and major regions of the nation.

Results: We included 37,337 patients who received CRRT in Korea. The overall use of CRRT increased over time, and more than 80% of acute renal replacement therapy was CRRT after 2014. Seoul was the region in which major portion of CRRT (45.0 %) was performed. Neoplasms/hematologic diseases (23.1 %), diseases of the circulatory system (22.8 %), the digestive system (10.7 %), and the genitourinary system (10.5 %) were the common principal diagnoses. Clinical characteristics of CRRT patients were significantly different among time-intervals and regions. Both all-cause mortality and renal survival after CRRT were prominently improved in the recent time-periods ($P<0.001$).

Conclusions: CRRT is a widely used treatment strategy for severe acute kidney injury in Korea. CRRT patients' prognosis has been improved from the past. Epidemiologic study of CRRT in Korea revealed notable time-trends and regional differences.

Use of CRRT according to time-periods



Prognosis of patients who underwent CRRT according to time-periods