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## **Acute kidney injury alarm system has a significant effect on the recovery of renal function**

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**Objectives:** Acute kidney injury (AKI) that occurs in hospitals makes it difficult to treat other diseases, increases hospital stay or increases the risk of progression to chronic kidney disease, and increases mortality. Therefore, early attempts to detect and intervene AKI and improve the progress are very important.

**Methods:** We introduced an AKI alarm system notifying the occurrence of acute kidney injury based on KDIGO guidelines. When the physician's action on the alarm was taken, it was automatically referred to the nephrologist and allowed for quick intervention. A cohort of patients with AKI before and after the introduction of this system was constructed to compare the clinical prognosis of the patients with AKI. Mortality, progression to end-stage renal disease (ESRD), and renal recovery (return of serum creatinine (sCr) to a value less than 1.2 times of baseline value) were evaluated.

**Results:** Patients with AKI after the introduction of the alarm system had better baseline renal function and lower peak sCr than patients with AKI before the introduction of the alarm system. Nevertheless, even after these factors including sex, age, baseline renal function, and AKI severity (peak sCr) were adjusted, the introduction of the alarm system itself did not reduce patient mortality (hazard ratio [HR] 1.25, 95% confidence interval [CI] 0.97-1.61, P = 0.081) or progression to ESRD (HR 1.31, 95% CI 0.98-1.75, P = 0.069). However, recovery of renal function was accompanied sooner and in more patients after system introduction. These results were still significant even if the underlying renal function or the severity of AKI were adjusted (HR 1.77, 95% CI 1.49-2.10, P < 0.001).

**Conclusions:** The introduction of the alarm system did not decrease the risk of mortality or progression to ESRD; however, had a significant positive effect on the recovery of renal function after acute kidney injury.