

## The Incidence and Clinical Course of Acute Renal Failure in Patients with Severe Acute Pancreatitis

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**Purpose** : Although acute renal failure (ARF) commonly develops in patients with severe acute pancreatitis (SAP), the impact of ARF on disease severity, morbidity and mortality is rarely reported in Korea. This study was performed to compare the clinical and laboratory findings, disease severity scoring systems, and morbidity and mortality between SAP patients with and without ARF.

**Methods** : We retrospectively evaluated the medical records of 102 patients who were admitted with SAP between January 2001 and June 2008 in 3 Hospitals of the Catholic University of Korea. First, we investigated the incidence and clinical course of ARF in SAP patients. Second, we divided the patients with ARF and normal renal function (NRF) groups and compared clinical and laboratory findings, disease severity scoring systems, and morbidity and mortality between the two groups.

**Results** : Of the total 102 SAP patients, ARF was observed in 39 patients (38.2%). The peak serum creatinine level in ARF patients was  $4.5 \pm 2.3$  mg/dL (2.0–14.0 mg/dL). Eight of the thirty-nine ARF patients (20.5%) received hemodialysis therapy due to severe renal failure. Ten patients (25.6%) died and 29 survivors showed complete recovery of renal function. When compared to the NRF group (n=63), the ARF group (n=39) had higher incidence of dyspnea (17.9% vs 3.2%,  $p=0.011$ ), loss of consciousness (17.9% vs 1.6%,  $p=0.003$ ), and APACHE II scores more than 8 indicating poor prognosis (92.3% vs 0%,  $p<0.001$ ). But there was no differences in other severity scoring systems, Ranson's score and CT grade between the two groups. When compared to the NRF group, the ARF group had also higher incidences of disseminated intravascular coagulation (17.9% vs 1.6%,  $p=0.003$ ), sepsis (35.9% vs 7.9%,  $p<0.001$ ), multiorgan failure (15.4% vs 0%,  $p=0.001$ ), respiratory failure requiring ventilator care (28.2% vs 4.7%,  $p=0.001$ ), and mortality (25.6% vs 3.2%,  $p=0.001$ ).

**Conclusion** : Our data showed that the incidence of ARF was high (38.2%) and ARF patients showed higher morbidity and mortality, compared to NRF patients. Therefore we suggest that early prevention and treatment of ARF should be performed for reducing the morbidity and mortality in SAP patients.

**Key Words** : 중증급성췌장염, 급성신부전, 사망률

Severe acute pancreatitis, Acute renal failure, Mortality