

## 무뇨성 급성 신손상의 임상적 특성

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최혜민, 조은정, 이재원, 임성윤, 조상경, 조원용, 김형규

### Etiologies, Clinical Characteristics and Outcomes of Anuric Acute Kidney Injury

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**Background:** Acute kidney injury (AKI) could be clinically described as oliguric (<400 mL urine/24hrs), nonoliguric ( $\geq 400$  ml/24hrs), or anuric (<100 ml/24hrs). Anuric AKI is uncommon and has been known to occur from complete ureteral obstruction, major vascular event, cortical necrosis or crescentic glomerulonephritis. However most anuric AKI were known through sporadic case reports and as far as we are concerned, there were no studies regarding to the epidemiology, clinical characteristics of anuric AKI. In this study, we examined anuric AKI cases that we experienced between 2009 and 2010 and herein report the causes, clinical characteristics and outcome.

**Methods:** This study was a prospective cohort study. AKI patients who were admitted or consulted to the nephrology department were observed. Patients on chronic dialysis or who died within twenty-four hours of anuria development were excluded.

**Results:** Total 13 patients were enrolled under diagnosis of anuric AKI and the median follow-up period was 6 mo. The etiologies of AKI were postoperative (n=5), sepsis (n=3), rhabdomyolysis (n=2), ATIN (biopsy proven, n=1), severe vasculitis (n=1) and unknown (n=1). Urine amount at the initial period of AKI was 0–87 ml/day (median 24ml/day). The duration of anuria was 1 day to 30 days in 12 patients (median 11 days), and one patient remained anuric until 1.5 mo, and was transferred, lost to follow-up. All patients with anuric AKI received renal replacement treatment (RRT) and continuous RRT (CRRT) was performed in 6 patients (46.2%). Ten patients needed ICU admission (76.9%) and mean lengths of ICU stay was  $11.6 \pm 7.8$  days. Five patients required mechanical ventilation and 3 patients needed vasoactive drugs. Of 12 patients who survived to hospital discharge, 6 patients progressed to end-stage kidney disease (ESKD) (50%) and were RRT dependent. Data on baseline renal function were available for 8 patients and mean baseline eGFR was  $55.5 \pm 8.0$  ml/min/1.73 m<sup>2</sup>. Of 6 patients who recovered renal function, eGFR at 3 mo after AKI event was  $56.4 \pm 4.8$  ml/min/1.73m<sup>2</sup>.

**Conclusion:** Recently, anuric AKI seem to result from diverse etiologies rather than from classic rare etiologies. Postoperative and septic AKI was the most common cause of anuric AKI and is thought to be associated with poorer clinical outcome. Better understanding the changing pattern of etiologies, clinical characteristics and outcome of anuric AKI is clearly warranted for this serious condition.

**Key Words:** 무뇨성, 급성 신손상, 임상적 특성

Anuric, Acute kidney injury, Clinical characteristics