Kidney disease improving global outcome for predicting acute kidney injury in traumatic brain injury patients

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**Aim:** The aim of this study was to determine the incidence of acute kidney injury (AKI) based on Kidney Disease Improving Global Outcome (KDIGO) criteria in patients with severe traumatic brain injury and to study AKI in relation to risk factors and outcomes.

**Method:** This trial was a descriptive analytic study on 83 patients with severe traumatic brain injury admitted to Poursina Hospital (Rasht, Iran). The incidence of AKI was determined based on KDIGO criteria over a 12-month period. The correlation of mortality rates, multi-organ failure (MOF), and neurologic outcome to AKI were studied.

**Results:** Of 83 eligible patients who entered the study, 25.3% (N = 21) developed AKI based on KDIGO criteria. Glasgow Outcome Scale on admission was the only risk factor significantly associated with the incidence of AKI (p = 0.001). Mortality rates (62% vs. 22.6%, p = 0.002) and the occurrence of MOF were significantly higher in patients who developed AKI (23.8% vs. 0% MOF based on Sequential Organ Failure Assessment, p<0.0001; 19% vs. 0% MOF based on Multiple Organ Dysfunction score, p < 0.0001). Poor neurologic outcome was observed in 95% and 92% of patients with and without AKI, respectively (p = 0.674).

**Conclusion:** The incidence of AKI among patients with severe traumatic brain injury is striking. The association of Glasgow Outcome Scale with AKI helps to identify patients at a higher risk of developing AKI. Significant rates of mortality and MOF among patients with severe traumatic brain injury and AKI, necessitates consideration of renoprotective measures from the early days of hospital admission.

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Primary monosymptomatic nocturnal enuresis: Monotherapy vs. combination therapy

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**Objective:** To evaluate the clinical results of monotherapy with combination therapy in treatment of Primary Monosymptomatic Nocturnal Enuresis (PMNE) in children.

**Patients & Methods:** Between December 2008 and May 2013, we reviewed the records of 176 children with PMNE. The monotherapy group received 120 micrograms of desmopressin melt whereas the combination therapy group received 120 micrograms of desmopressin melt plus 1-2 mg oral tablet of tolterodine. The degree of response was evaluated at 1-3 months during the treatment and 6 months after complete cessation of treatment protocol.

**Results:** Among 176 children, 84 and 92 patients received monotherapy and combination therapy, respectively. There were no statistical differences in gender, age, or baseline monthly frequency of PMNE between the two groups. At baseline, patients had an overall mean of 23.6±5.6 wet nights per month, which decreased to 10.8±5.6 and 7.3±5.3 in monotherapy group and 8.9±9.5 and 3.3±4.9 in combination therapy group at 1 and 3 months after treatment. The rates of Complete plus Partial Response to treatment at 1 and 3 months for monotherapy and combination therapy group were 63.1% and 73.9% vs. 72.5% and 93.47% (P value 0.12 vs. 0.006). The relapse of PMNE 6 months after complete cessation of treatment was 16.39% and 9.09% for monotherapy vs. combination therapy group.

**Conclusion:** This study supports the efficacy of combination therapy with desmopressin melt plus oral tolterodine over monotherapy with desmopressin melt in the first-line treatment of PMNE in children.

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