

Frequency of acute kidney injury in patient receiving piperacillin-tazobactam: A hospital-based study from Qatar

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Abstrak

Background: several studies have been reported piperacillin-tazobactam (TAZ / PIPC)-associated AKI with various frequencies. The aim of this study was to determine the frequency of TAZ/PIPC- associated AKI among our patients and to identify the risk factors for this clinical entity. Methods: this retrospective cross-sectional study was conducted at Hamad General Hospital; it involved adult patients who were admitted from January 2017 to December 2017. Results: we involved 917 patients, of whom 635 (69.25%) were males and 282 (30.75%) were females. The mean age of the patients was 52 (SD 19) years, and 98 (10.7%) patients were diagnosed with AKI. The patients with AKI were significantly older than without AKI [59.71 (SD 19.79) versus 51.06 (SD 18.67); $P < 0.001$]. After TAZ/PIPC initiation, the mean creatinine level in the AKI group was higher than the mean creatinine level in the non-AKI group, [158.91 (SD 81.93) versus 66.78 (SD 21.42); $P < 0.001$]. The mean time of onset of AKI after PIPC/TAZ initiation was 4.46 (SD 3.20) (1-12 days). AKI was significantly associated with low mean serum albumin ($P < 0.001$), high mean fasting blood glucose ($P < 0.001$), coronary artery diseases ($P < 0.001$), heart failure ($P < 0.001$), liver diseases ($P = 0.047$), diabetes mellitus ($P = 0.021$) and hypertension ($P < 0.001$). The in-hospital mortality was significantly higher in the AKI group [38.78% versus 5.13% in the non-AKI group; $P < 0.001$], and only advanced age and heart failure were found as independent risk factors for TAZ/PIPC-associated AKI. Conclusion: TAZ/PIPC was significantly associated with AKI. Advanced age and heart failure were identified as independent risk factors for TAZ/PIPC-associated AKI