Abstract

Background: Acute kidney injury (AKI) occurs in up to 50 % of patients admitted in the intensive care units. Fibroblast growth factor 23 (FGF23), which plays an important role in regulating phosphate, rises early in AKI. Few studies were conducted to correlate the level of FGF-23 and adverse outcomes in AKI.

Methods: This study was conducted on 30 participants with AKI, which was defined according to acute kidney injury network (AKIN) criteria, admitted to the critical care department, Kasr Elainy hospital, Cairo university during the period between July 2016 and May 2017 and serum FGF23 was measured within 24 hours of AKI onset to correlate the level of FGF23 with mortality and need for renal replacement therapy (RRT).

Results: Enrollment FGF23 levels were significantly higher among patients who died than in the survival group (mean level: 544.2 versus 59.3 pg/ml, p=0.004). Also FGF23 levels were significantly higher in patients who needed RRT than in other participants (mean level: 529.5 versus 285.11pg/ml, p=0.04). There was a statistically significant positive relationship between FGF23 level and sequential organ failure assessment (SOFA) score (p=0.03).

Conclusion: In patients with AKI, higher FGF23 levels are associated with increased risk of mortality and need for RRT.

Key words: Acute kidney injury, fibroblast growth factor 23, mortality, renal replacement therapy, biomarkers.