

Acute Kidney Injury in patients undergoing hip fracture surgery

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Objective: hip fracture is common in elderly patients and is associated with high morbidity and mortality. development of Acute Kidney Injury (AKI) following hip fracture may have additional impact on short- and long-term outcomes. We evaluated the incidence and the risk factors for AKI and its impact on clinical outcomes in patients undergoing hip fracture surgery.

Methods: we retrospectively examined the records of patients that underwent hip fracture surgery between 2013 and 2017 and had their serum creatinine measured upon admission and at least one follow-up value. AKI was defined according to KDIGO guidelines. we evaluated the incidence of AKI, the risk factors associated with its occurrence and its impact on clinical outcomes

Results: 514 patients were included. Mean age 72.6 years. 325 (62%) males, 151 (29.8%) had baseline eGFR<60 ml/min/1.73m². 87(17%) patients developed AKI. The median rise in serum creatinine was 0.6mg/dl. (range 0.3-3.72 mg/dl) In univariate analysis: age (80.4 and 71.2 years in patients with and without AKI) , prior CKD (median baseline eGFR 58.5 and 79 ml/min/1.73m² in patients with and without AKI) , Diabetes Mellitus, Hypertension, and chronic heart condition were identified as risk factors for AKI. Patients with AKI had increased risk of early (30 days) mortality {HR 3.96 CI [1.62-9.7] p=0.003} ; mortality at 12 months {HR 2.72 CI [1.5-4.9] p=0.002} .AKI was an independent predictor of surgery delay for more than 48 hours after admission {HR 2.928, CI [1.602, 5.350] p<0.0001} and was associated with longer hospitalization : mean LOS 10.9 days compared to 8 days in patients with and without AKI, p<0.0001.

Conclusions: AKI is a common complication in patients with hip fracture and is associated with increased short- and long-term mortality, delayed surgery, and longer hospitalization. Interventions aimed at identifying and monitoring patients at risk may contribute to improve the outcomes.