**Background**Acute kidney Injury is a known post-operative complication with significant increase in morbidity and mortality. About 7% to 11% of patients undergoing orthopedics surgery experience acute Kidney injury. Emergency surgery following fracture neck of femur is more often carried out in high risk elderly population. The reported incidence of acute kidney injury in elderly patients undergoing hip fracture surgery ranges from 15.3–24.4%. AKI following hip fracture has multi-factorial causes. Baseline renal function, age, comorbidities, dehydration, nephrotoxic drugs, and malnutrition are documented risk factors for AKI.

**Aim**The Aim of this audit was to identify the incidence of post-operative AKI in patients following emergency surgery for fracture neck of femur and identify the risk factors responsible for post-operative AKI in these patients.

**Materials and methods**An audit was carried out to collect retrospective data for all the patients over the age 60 with fracture neck of femur who underwent emergency surgery between January 2016 and January 2017. The details regarding baseline renal function, age, comorbidities, dehydration, nephrotoxic drugs, and malnutrition were collected. A total of 328 patients were included in the analysis. P-values were calculated by 2x2 tables for individual variables and also single-variable logistic regression models was used to find out statistically significant predictors of AKI.

**Results**Out of 328 patients, 229 patients were female (69.8 %). A total of 54 (16.4%) patients had developed AKI. Hypertension was the most common comorbidity in both Non AKI and AKI group. In 10% of patients AKI did not resolve and 70% (n=7) of these patients died. In AKI group 68.5% patients were over 80 year age.

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| **Factor**  | **Non-AKI** | **AKI** | **P-Value** |
| Hypertension  | 108/274 (39.4%) | 24/54 (44.4%) | =0.5445 |
| CKD (Chronic Kidney Disease) | 26/274 (9.5%) | 7/54 (12.9%) | =0.4580 |
| Diabetes | 35/274 (12.8%) | 9/54 (16.7%) | =0.5112 |
| Metformin | 19/274 (6.9%) | 4/54 (7.4%) | =1.0000 |
| ACEI treatment  | 64/274 (23.3%) | 10/54 (18.5%) | =0.4821 |
| Angiotensin II receptor blockers (ARB) | 23/274 (8.3%) | 5/54 (9.2%) | =0.7922 |
| Furosemide  | 20/274(7.2%) | 8/54 (14.4%) | =0.1042 |
| Mean pre-operative S.creatinine  | 87.5 | 142.4 | **=<0.0001** |

From the single-variable logistic regression model, age and pre-op creatinine were statistical significant (p=<0.0001) predictors of AKI (Table).
Conclusion

Most of the patients with unresolved AKI died. Furosemide was the most significant pre-operative medication in AKI group. Pre-operative CKD as co-morbidity was not statistically significant risk factor however the age and pre-operative creatinine value were the most important factors responsible for the development of AKI.