

Service Evaluation of AKI and its Impact on Emergency Hip Fracture Surgery

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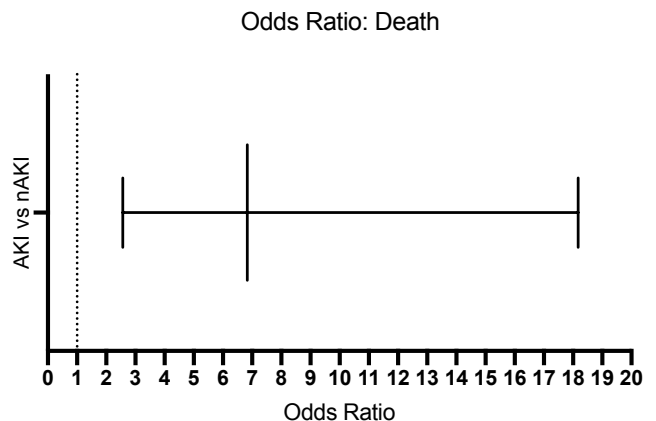
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Background

AKI in elective lower limb arthroplasty is well represented in the current literature. However, little appears to be available in the current literature when focusing on AKI in emergency fixation of neck of femur fractures. This patient cohort are often frail, present with multiple co-morbidities and as such are riskier surgical candidates. We carried out service evaluation of AKI and its impact on emergency hip fracture surgery in a district general hospital.

Method

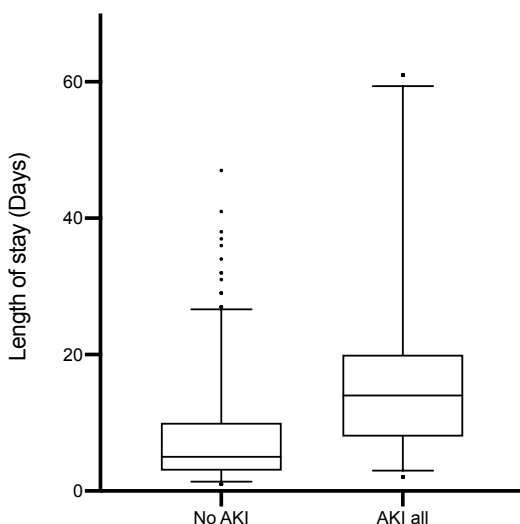
Using patient data Lorenzo system and orthopaedic operative database, we were able to identify all patients retrospectively who had emergency hip fracture surgery between 1/8/2017-31/8/2019 NOF. Admission, operation and discharge dates along with length of stay (LOS), discharge destination and highest level of AKI (KDIGO classification) were recorded for analysis. Odds ratios were performed using excel for Mac 16.38.



Results

AKI occurred in 85 cases following 738 emergency fixations for neck of femur fractures. Of these, the mean inpatient length of stay was significantly higher in those that developed AKI (\bar{x} =16.5days) compared to those who did not (\bar{x} =7.62days) ($p>0.0001$). There was a total of 17 inpatient deaths following surgical fixation of NOF#, 9 occurring in the non-AKI group (1.38%) and 8 occurring in the AKI group (9.41%). This represents an OR 6.83 (95% CI 2.57 to 18.17).

AKI vs Non-AKI Length of Stay



Conclusion

Incidence of AKI poses a significant impact on orthopaedic LOS in emergency arthroplasty, increasing by an average of 8.90 days. AKI also has a significantly negative impact on mortality outcomes in hip fracture patients, with the risk of death over 6 times higher (OR 6.83) following AKI. The death rate in this population (9.41%) is outside the NHFD 95% upper control limit and further work is therefore needed to identify any potentially preventable causes of AKI in this patient population.