Renal Function and Mortality in Patients with Proximal Femoral Fractures

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Fractures of the femoral neck are expected to increase over the next 1-2 decades as life expectancy increases. 77% of these fractures occur in patients aged 75 and over¹. We evaluated the correlation between renal function and mortality in this group of patients.

Methods
As part of service evaluation at our institute, we retrospectively collected the plasma renal indices performed on all patients over a 6 month period who underwent surgical fixation of their proximal femoral fracture. We recorded the data at three different time points – on admission, immediately preoperatively and 5 days postoperatively. We also estimated the glomerular filtration rate using the MDRD equation. The total number of patients was 508. We excluded 20 patients due to incomplete or missing data. We examined the data using Cox Regression for survival analysis. We included age, ASA classification and sex as predictor variables in the analysis.

Results
Elevated admission creatinine were predictors of increased 30 day and 1 year mortality with p values of 0.002 and 0.008 respectively.

Discussion
These results show that renal function is related to mortality in fractured neck of femur patients. These findings correlate with White et Al² who also demonstrated an increase in 30 day mortality in patients with renal dysfunction. However we also demonstrated an increase in 1 year mortality in patients with elevated creatinine levels on admission following a proximal femoral fracture. These findings may be used in the future to design a specific outcomes scoring system for this subgroup of patients.