Introduction: Femoral fracture is associated with high geriatric mortality. Frailty is the increased vulnerability to stressors resulting from aging-associated decreases in physiological reserve. We aimed to predict 30-365-day postoperative mortality and morbidity rates using modified frailty index and perioperative characteristics in geriatric femoral fractures. Materials and Method: Using a prospective observational design, data were collected from patients >65 years undergoing femoral fracture surgery from 13 different hospitals in 2016 and 2017. Post-discharge follow-up periods were 30, 90, 180, and 365 days. Age, sex, modified frailty index and anaesthesia types used during surgery were recorded. Renal markers, troponin I and haemoglobin levels were examined preoperatively and postoperatively at 24 and 72 hours. Results: We included 392 patients in this study. The age of the patients were between 65 and 101 (mean, 79±11.9). Median modified frailty index was 5 (interquartile range, 2–7). Increase in modified frailty index increased mortality rate. Mortality rate at postoperative 30 days was 9.8%, while overall study mortality rate was 23%. Spinal anaesthesia was administered in 205 patients (52.3%, most frequent), followed by general in 110 (28.1%), peripheral nerve blocks in 21 (5.4) and spinal-epidural in 43 (11%). Anaesthesia type affected both intensive care unit (p<0.001) and total hospitalization (p<0.012) duration. A logistic regression model revealed that frailty index, preoperative creatinine and centre type were independent mortality predictors. Conclusion: Increased modified frailty index was associated with higher postoperative mortality risk, thus providing an additional way for improving risk stratification. Preoperative creatinine increase and centre types are determining factors in mortality. Keywords: Frail elderly; Geriatrics; Femoral fractures; Anesthesia; Mortality; Morbidity

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