

#### Introduction:

Surgical procedures for lumbar degenerative disc diseases (LDDD) are becoming more common in the elderly population, which is likely because of the advancements in surgical technique, improved anesthesia, patient expectations, and increasing longevity. There is a paucity of data on the effects of complication rates of aging and the presence of comorbidities in these population subgroups undergoing lumbar spine surgeries in literature. The current study aims to find out the relation between age, American Society of Anesthesiologists score (ASA), 11 variable modified Frailty Index (mFI), and post-op complications among patients >75 years undergoing lumbar spine surgery for degenerative disc disease. Material and

#### Methods:

50 consecutive patients >75 years of age who underwent surgical procedures for LDDD at a tertiary care hospital between 2017 and 2019 were enrolled. A matched cohort of consecutive 50 patients was also included in the study and grouped as per their age i.e. 45-60, 61-75 years. The occurrence of per operative complications, length of stay (LOS), and 30 days mortality were analyzed in comparison with the mFI, ASA score. mFI score of  $\geq 0.27$  was considered as frail.

#### Results:

The mean age of the study group was 80 years and the M: F ratio was 28:22. 14 out of 50 patients (28%) had complications and 2 (4%) patients died. The calculated 11 variable mFI on the study group showed a stepwise increment in post-op complications as mFI score increased from 0 to 0.36. A similar trend was observed in both the control group i.e. 45-60 and 61-75. The LOS with mFI scores 0 was  $2.5 \pm 0.67$  which increased to  $8.33 \pm 5.77$  with mFI score of 0.36 in the age group >75 years. The proportion of Clavien Dindo class IV complications (mortality, ICU admissions) was higher in  $mFI \geq 0.27$ . Univariate logistic regression analysis showed that age and mFI are associated with any complications in the study group ( $p < 0.05$ ) and the association between ASA score and any complications were not significant.

#### Conclusion:

Our study shows that 11 variable mFI owing to its brevity is a useful tool for predicting post-op morbidity and mortality in a geriatric population undergoing spine surgery. It was also found that increased ASA alone was not associated with increased complication rates.