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Fracturing frailty: a retrospective analysis of frailty prevalence in patients presenting for hand fracture management

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Background: Frailty is a decline in physiological systems that increases the risk of adverse health outcomes. The primary aim of this study was to assess the prevalence of pre-interventional clinical frailty in patients over the age of sixty-five presenting for management of closed hand fractures.

Methods: A retrospective analysis of patients over sixty-five, presenting with closed metacarpal or phalangeal hand fractures was performed. Data were collected from patient records, radiographs, and frailty was calculated using the Rockwood Clinical Frailty Score. Patients were stratified as fit, vulnerable or frail. Patient, disease, and treatment-related variables were correlated with clinical frailty scores.

Results: Of the 130 patients who presented during the period of interest, 72 met the inclusion criteria. There was a female preponderance (1.77:1) in this cohort and a mean age of 76.11 years (standard deviation \pm 7.81). Frail and vulnerable patients were significantly more likely to have sustained low velocity fractures (LVFs) compared to fit patients ($P=0.0051$). The occurrence of LVFs was 87.10% [95% confidence interval (CI): 70.17–96.37%] sensitive for

frailty or vulnerability, with a negative predictive value of 81.81% (95% CI: 59.72–94.81%).

Conclusions: Low velocity falls account for the majority of hand fractures in this cohort. This is the first study to identify high frailty scores in a cohort of patients over 65 years presenting with hand fractures. We suggest a standardized investigation and treatment pathway for these patients upon presentation with these LVFs to prevent further fragility fractures in this at-risk cohort.

Keywords: Frailty; fractures; low-velocity; prevention; trauma

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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