

Facial Fractures in the Aging Population

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Abstract

Purpose: The elderly population will more than double between now and 2050. With the advancing age, trauma centers will need to adapt to their needs. However, there is a paucity of literature evaluating facial fractures in the elderly.

Methods: A retrospective review of adult patients at a level one trauma center was performed to evaluate age related differences in facial fractures. Elderly patients were defined as 65 years or older and younger patients less than 65 years. Descriptive statistics were used to compare fracture number and type, etiology of injury, management, and adverse events between the age cohorts. Logistic regression was used to evaluate the effect of age on fracture type while controlling for potential confounding variables.

Results: 2023 patients sustained facial fractures at Duke University Medical Center from 2001 to 2011. 209 were elderly (mean age= 76.9) and 1814 were younger (mean age= 34.7). Gender and race differed between the ages such that elderly females and younger males were more likely than elderly males and younger females to sustain a facial fracture ($p < 0.0001$). The incidence of facial fractures was higher in white compared to non-white elderly patients and higher in non-white compared to white younger patients ($p < 0.0001$). Elderly patients were more likely to fall and younger patients were more likely to sustain assaults and MVCs ($p < 0.0001$; Figure 1).

Logistic regression revealed that elderly patients were 2 times more likely to experience a maxillary and orbital floor fracture and 1.67 less likely to sustain a mandible fracture compared to the younger population (table 1). Elderly patients required less surgical intervention ($p < 0.0001$) and were significantly less likely to experience adverse events with their care ($p = 0.0162$).

Conclusion: Elderly patients tend to suffer from less severe facial fractures requiring less need for operative intervention likely secondary to low-energy mechanisms of injury.

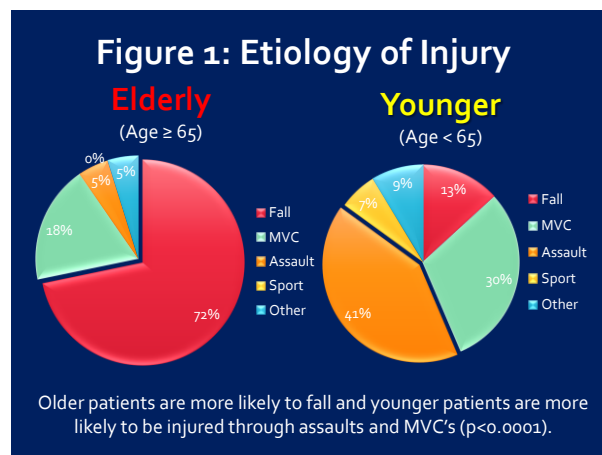


Table 1: Multivariate Regression Analysis Evaluating the Effect of Age on Fracture Type

Fracture Type	Age ($\geq 65^*$ or < 65)	
	P-Value	Odds Ratio (95% C.I.)
Maxillary (Non-Lefort)	0.0110	2.0 (1.2, 3.3)
Orbital Floor	0.0037	1.9 (1.2, 2.8)
Mandible	0.0467	0.6 (0.4, 1.0)
Other Orbit	0.6555	0.9 (0.5, 1.5)
ZMC	0.2507	0.7 (0.5, 1.2)
Zygoma	0.5789	0.8 (0.4, 1.7)
Nasal	0.7282	0.9 (0.7, 1.3)
Frontal Sinus	0.9369	1.0 (0.4, 2.3)
Complex (LeForte, NOE, Panfacial)	0.7008	0.9 (0.4, 1.8)