

Session/Poster#

Presenter

A19

Patrick Nian

College of Medicine Student

Advisor(s): Dr. Ishaq Ibrahim, Orthopaedic Surgery and Rehabilitation Medicine

Shots Fired: Socioeconomic and Treatment Pathway Evaluation of Civilian Gun Shot Orthopaedic Fractures Presenting at Two New York City Level 1 Trauma Centers

Introduction/Purpose: To evaluate the complete management trajectory of patients presenting to two NYC level-1 trauma centers from 2019 to 2021 with orthopaedic fractures secondary to gunshot wounds (GSWs), with regards to (1) patient demographics; (2) hospital course; and (3) postoperative follow-up compliance.

Methods: A retrospective chart review from July 2019 to September 2021 was performed to identify all GSW patients presenting to two NYC Level-1 trauma centers. Patient demographics and details of injury, hospital course, and follow-up were noted. Univariable and multivariable logistic regressions identified independent predictors of compliance to the initial follow-up visit. Statistical significance was set at $p < 0.05$.

Results: Among 478 total GSW patients identified, 92 patients sustained 128 unique orthopaedic fractures. 94.6%, 73.9%, and 88.0% were male, Black, and with either emergency Medicaid or uninsured, respectively. The mean 2015 Social Deprivation Index was 91.2/100. Of these patients, 65 patients (70.7%) suffered a fracture to the lower extremity, most commonly at the femur (19.6%). 32 patients (34.8%) suffered a concomitant non-orthopaedic injury. Mean orthopaedic surgeries per patient was 2.1. In-hospital mortality rate among orthopaedic fracture patients was 3.3% vs. 9.2% among all GSW patients. Only 33 patients (35.9%) complied with their initial post-operative clinic visit.

Multivariable logistic regression demonstrated the greatest predictors for follow-up compliance to be a hip (OR: 51.6; $p = 0.013$) and femur fracture (OR: 22.2; $p = 0.011$).

Conclusion: The orthopaedic health burden of gun violence disproportionately affects certain demographic groups associated with high levels of socioeconomic deprivation. Surgical intervention is often necessary for these fractures; however, mortality is generally low. Follow-up compliance is inadequate and future studies should aim to elucidate the determinants of poor follow-up compliance in these patients.