

Recognizing Intimate Partner Violence: Defensive Ulnar Fractures

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PURPOSE

The purpose of this study is to characterize the imaging pattern of in isolated ulnar fractures or "nightstick" fractures in victims of intimate partner violence (IPV).

METHOD AND MATERIALS

Electronic medical records from 6 hospitals were queried to identify a cohort of female patients age 18-50 sustaining isolated ulnar fractures from 2005-2019. Radiographs were reviewed for fracture location, comminution, displacement, and associated injuries. Demographic data, known IPV risk factors, and whether IPV screening was performed were also collected. Patients were stratified into four groups based on self-reporting and/or injury documentation as reported by EMS: confirmed IPV, suspected IPV, suspected unrelated to IPV, and confirmed unrelated to IPV.

RESULTS

62 patients avg age 31 ± 9 were identified (IPV: 11 confirmed, 9 suspected, 8 suspected unrelated, 34 confirmed unrelated). Patient language, race, ZIP code, wealth index, marital status, religion, alcohol/IV drug abuse, and psychiatric history were not associated with IPV with or without suspected cases. Comparative analysis with and without suspected cases demonstrated IPV to be associated with minimally displaced fractures (95% vs 43%; $p < 0.001$ and 91% vs 44%; $p = 0.012$). Confirmed cases were also associated with homelessness (46% vs 0%; $p < 0.001$), and number of documented ED visits attributable to musculoskeletal injury (avg 4.4 ± 3.7 vs 0.9 ± 0.4 ; $p < 0.001$). Formal documentation of IPV evaluation or screening was completed in only 40.0% of confirmed/suspected IPV patients and in 14.3% of confirmed/suspected unrelated to IPV patients.

CONCLUSION

Up to one-third of adult women sustaining isolated ulnar fractures were potentially caused by IPV, yet screening for IPV was instituted in only 40% of suspected and confirmed cases. Radiologists should raise a suspicion of IPV especially with a non displaced isolated ulnar fracture.

CLINICAL RELEVANCE/APPLICATION

Isolated ulnar fracture in a woman, especially non displaced, should prompt the radiologist to raise a concern for IPV.