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PGY-2

Resident Research Day

Abstract

Purpose: To investigate the association between fibromyalgia and the development of complex regional pain syndrome after distal radius fracture.

Methods: The PearlDiver Medicare database was queried using ICD-9 diagnosis and procedure codes and CPT codes for distal radius fractures treated surgically, with closed reduction, and without procedural intervention. Patients were separated into fibromyalgia and control cohorts, and the prevalence of CRPS was measured at 3, 6, 12, and 24 months from the date of injury or procedure, using the appropriate ICD-9 diagnosis codes for fibromyalgia and CRPS.

Results: Records from 49,559,651 patients yielded 209,975 patients that received surgical treatment, with 13,630 (6.5%) having fibromyalgia, 126,397 received closed reduction, with 6,586 (5.2%) having fibromyalgia, and 516,814 receiving no procedural intervention for distal radius fracture, with 30,343 (5.9%) having fibromyalgia. The percentage diagnosed with CRPS at 2 years was 0.27% for the surgical control group versus 0.73% for the surgical group with fibromyalgia, 0.26% for controls receiving closed reduction versus 0.56% with closed reduction in fibromyalgia patients, and 0.22% for those controls without any procedural intervention versus 0.60% of fibromyalgia patients without intervention. The prevalence of CRPS was increased in the fibromyalgia cohort compared to control in the surgical, closed reduction, and non-procedural groups, with odds ratios at 3 months of 3.3, 3.8, and 2.5 respectively. Odds ratios calculated for male populations were 10.0 for closed reduction and 5.4 for non-procedural patients.

Conclusions: The database queries showed an increased rate of CRPS following distal radius fracture in fibromyalgia patients. While the basis of the association between fibromyalgia and CRPS is unknown, our data suggests that it could serve as a useful predictor of CRPS risk, promoting increased vigilance for CRPS symptoms and earlier recognition and treatment, thereby improving patient outcomes.

Level of Evidence: Therapeutic Level III, retrospective cohort study.