

VALIDATION OF FRAGILITY FRACTURES IN PRIMARY CARE ELECTRONIC MEDICAL RECORDS: A POPULATION-BASED STUDY

D. Martinez-Laguna¹, A. Soria-Castro¹, C. CarbonellAbella¹, P. Orozco¹, P. Estrada-Laza¹, X. Nogués², A. DiezPerez², D. Prieto-Alhambra³

¹ Institut Catala de la Salut and IDIAP Jordi Gol, Barcelona, Spain, ² Department of Internal Medicine, Hospital del Mar-IMIM and Autonomous University of Barcelona, Barcelona, Spain, ³ Oxford NIHR Musculoskeletal Biomedical Research Unit, University of Oxford and IDIAP Jordi Gol, Oxford, United Kingdom

Objective

Electronic medical records databases use validated lists of ICD (or other) codes to identify fractures. These, however, are not specific enough to disentangle traumatic from fragility fractures. We report on the proportion of fragility fractures identified amongst a random sample of coded fractures in SIDIAP, both overall and after stratification by fracture site.

Material and Methods

Retrospective observational study in 6 of the 279 primary care centers included in the SIDIAP database (www.sidiap.org). SIDIAP contains clinical information from primary care records, hospital admissions, and pharmacy invoice data for >5 million patients (80 % of the population) in Catalonia, Spain. We selected all patients ≥ 50 years old with a clinical fracture registered in 2012 using pre-specified lists of ICD-10 codes. Patients were excluded if they did not respond, had a dementia or a serious psychiatric disease, or died during the study. Data on fracture type (traumatic or fragility), site, as well as on patient characteristics were collected, previous verbal consent.

Results

A total of 491/616 (79.7 %) patients with a registered fracture in 2012 were contacted, and 331 (349 fractures) were included after eligibility screening. Mean age was 69.85 ± 11.13 and 76.4 % were women. The most prevalent fractures were forearm (82), ribs (38) and humerus (32). 225/349 (64.5 %) were fragility fractures, with higher proportions for classic osteoporotic sites: 91.7 % for hip, 87.7 % for spine, and 80.5 % for any major fracture (including hip, spine, wrist/ forearm and proximal humerus). Osteoporotic, compared to traumatic, fractures were more frequent in women (85.1 vs. 60.3 %, $p < 0.0001$), in older patients (mean age 72.23 ± 10.48 vs. 65.45 ± 11.01 , $p < 0.0001$) and amongst patients with a previously coded diagnosis of osteoporosis (31.6 vs. 15.5 %, $p = 0.001$).

Conclusion

In patients ≥ 50 years old from the SIDIAP database the majority of hip, vertebral and major fractures are for fragility