that fetuin-A is also associated with bone mineral density [3], it may be regarded as a marker of bone remodeling.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.568

POS0510

EPIDEMIOLOGY OF COCAINE AND HALLUCINOGEN USE DISORDER HOSPITALIZATIONS IN RHEUMATIC DISEASES

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Background: Cocaine use disorder is a frequent cause of drug use disorders in the U.S. Although hallucinogen use disorder is less common, both are potentially preventable public health issues. To our knowledge, epidemiological studies estimating burden of cocaine or hallucinogen use disorders in common Musculoskeletal diseases (MSDs) are lacking.

Objectives: To assess national time-trends in cocaine use and hallucinogen use disorders in people with MSDs

Methods: This study used the U.S. National Inpatient Sample (NIS), a de-identified national all-payer inpatient health care database (<https://www.hcup-us.ahrq.gov/nisoverview.jsp>) from 1998-2014. The NIS is a 20% stratified sample of hospital discharges in the U.S. It is commonly used to derive national estimates of hospitalization and outcomes. Cocaine or hallucinogen use disorder hospitalization was defined in a validated approach as the presence of the following International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnostic codes: cocaine use disorder, 304.2x, or 305.6x; and hallucinogen use disorder, 304.5x or 305.3x; hospitalizations for drug use in remission, drug counseling, rehabilitation or detoxification were excluded, as in previous studies. MSDs were identified based on the respective ICD-9 codes, a validated approach (5-9), in non-primary position: Gout: 274.xx; rheumatoid arthritis (RA): 714.xx; Fibromyalgia: 729.1; osteoarthritis (OA): 715.xx; or low back pain (LBP): 724.

Results: In 1998-2000, the highest frequency of cocaine use hospitalizations was in people with LBP: LBP (n=5,914), followed by OA (n=4,931), gout (n=2,093), RA (n=2,026), and fibromyalgia (n=1,620). In 2013-2014, the order changed slightly with OA (n=22,185), followed by LBP (n=16,810), gout (n=10,570), RA (n=8,975), and fibromyalgia (n=5,680). Respective rates per 1 million U.S. NIS hospitalizations in 2013-2014 and the relative increase from 1998-2000 to 2013-2014 were: Gout, 10.2 (increase, 4.1-fold); OA, 21.4 (3.5-fold); fibromyalgia, 5.48 (2.5-fold); RA, 8.66 (3.4-fold); and LBP, 16.22 (1.8-fold; figure 1).

Figure 1. Time-trends in the rates of hospitalization with cocaine use and hallucinogen use disorder (A), non-home discharge (B), and in-hospital mortality (C) per 100,000 NIS hospitalization claims. The x-axis shows rate per 100,000 NIS hospitalization claims and the y-axis shows the study periods

In 1998-2000, hallucinogen use disorder hospitalizations were as follows: LBP (n=176), followed by OA (n=63), RA (n=42), fibromyalgia (n=41) and gout (n<10; cells with frequency of 10 or fewer are reported as <10 per NIS guidance). In 2013-2014, the frequency order was the similar, with the highest numbers for LBP (n=525) followed by OA (n=400), RA (n=395), gout (n=135) and fibromyalgia (n=125). Respective rates per 1 million US NIS hospitalizations in 2013-2014 and the relative increase from 1998-2000 to 2013-2014 were: Gout, 0.13 (increase, 25-fold); OA, 0.39 (5.5-fold); fibromyalgia, 0.12 (2-fold); RA, 0.38 (8.5-fold); and LBP, 0.51 (2-fold; figure 1).

Conclusion: This study confirmed an increasing rate of both, cocaine use and hallucinogen use disorder hospitalizations in people with 5 MSDs over a 17-year period from 1998-2014 in the U.S.

Acknowledgements: John D. Cleveland, MS of the University of Alabama at Birmingham for performing data analyses according to the protocol.

Disclosure of Interests: Jasvinder Singh Speakers bureau: JAS is on the speaker's bureau of Simply Speaking. JAS is a member of the executive of Outcomes Measures in Rheumatology (OMERACT), an organization that develops outcome measures in rheumatology and receives arms-length funding from 12 companies., Consultant of: consultant fees from CreaIta/Horizon, Medisys, Fidia, UBM LLC, Trio Health, Medscape, WebMD, Two labs Inc., Adept Field Solutions, Clinical Care options, Clearview healthcare partners, Putnam associates, Focus forward, Navigant consulting, Spherix, MedIQ, Practice Point communications, the National Institutes of Health and the American College of Rheumatology.

DOI: 10.1136/annrheumdis-2021-eular.613

POS0511

USING HIP STRUCTURAL ANALYSIS MEASUREMENTS TO PREDICT FRACTURE IN RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory autoimmune disease and increases the risk of developing osteoporosis. Incidence of fracture is higher in this group of patients compared to the general population and can lead to increased morbidity (1). Bone strength of the proximal femur is not only linked to bone mineral density; it also depends on the geometric properties of the bone mass (2). Hip structural analysis (HSA) is a technique used to assess hip bone structure that takes geometric measurements of the femur from dual-energy X-ray absorptiometry (DEXA) images (3).

Objectives: To determine whether HSA measurements help predict fracture in patients with RA.

Methods: Data were collected from June 2004 to August 2017 from RA patients who underwent a DEXA scan at a District General Hospital. This included hip axis length (HAL), cross-sectional area (CSA), cross-sectional moment of inertia (CSMI), distance from centre of femoral head to centre of femoral neck (D1) and to inter-trochanteric line (D2), mean femoral neck diameter (D3), shaft angle (A) neck/shaft angle (Θ) and proximal femur strength index (SI) and distance from centre of mass of femoral neck to superior neck margin (Y). Fracture was predicted by a series of binomial logistic regression models, adjusted for sex, age and bone mineral density (BMD). Odds ratios with 95% confidence intervals and area under the receiver operating characteristic curve (AUC) were calculated.

Results: 2077 patients with RA were identified, 1632 were female and the mean age was 66.7. HAL, D1, D2, D3, A, Θ and Y were not significant predictors of fracture in regression models; odds ratios are included in table 1. CSA, CSMI and SI predicted fracture risk. The AUC for CSA, CSMI and SI regression models were 0.632, 0.609 and 0.625 respectively.

Table 1. Odds ratios of fracture for different HSA parameters in RA patients

HSA Parameter	Odds Ratio (95% Confidence Interval)
HAL	1.01410 (0.99958 - 1.02883)
CSMI	0.99994 (0.99990 - 0.99998)
CSA	0.98523 (0.98065 - 0.98982)
D1	1.01683 (0.98925 - 1.04518)
D2	1.01286 (0.99886 - 1.02705)
D3	1.00664 (0.96958 - 1.04511)
Y	1.04580 (0.98633 - 1.10886)
A	1.00898 (0.98878 - 1.02959)
Θ	1.00276 (0.98672 - 1.01906)
SI	0.56769 (0.43400 - 0.74258)