initial attack group). During the follow-up period, 51 gout flares developed (18 in the initial attack group). No significant seasonal variation in the follow-up flares was found.

Conclusion: In this prospective study, the most common season and month of gout attacks in Korea were spring and March, respectively. Alcohol was the most common provoking factor, particularly during summer. Diurnal temperature changes on the day of the attack and humidity changes from the day before the attack to the day of the attack were associated with gout attack in our cohort.

References:

- [1] Choi HJ, Lee CH, Lee JH et al. Seasonality of gout in Korea: a multicenter study. *J Korean Med Sci* 2015;30:240-4.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.1363

THU0444 INCIDENCE OF ACUTE GOUT FLARE IN PATIENTS INITIATED ON INTRAVENOUS BUMETANIDE FOR ACUTE CONGESTIVE HEART FAILURE EXACERBATION

S. Jeong¹, L. Tan². ¹Temple University Hospital, Department of Medicine, Philadelphia, United States of America; ²Einstein Medical Center, Philadelphia, United States of America

Background: Heart failure is a prevalent and ever-increasing public health concern associated with significant morbidity, mortality, and financial burden. Therefore, identifying any factors that worsen the outcome of patients with heart failure is crucial to the nation's medical and financial health.

One of the major comorbidities associated with heart failure is gout. Gout is a clinical syndrome of joint inflammation resulting from the deposition of monosodium urate crystals, causing painful and swollen arthritis. Acute gout flares in the context of acute heart failure (AHF) exacerbations result in longer lengths of stay and form an independent risk factor for increased readmissions or death¹. The use of loop diuretics in treating patients with AHF exacerbations may cause new onset of gouty arthritis or recurrence of established gout by increasing serum uric acid levels. Uric acid alone is implicated as an independent predictor of mortality in patients with chronic heart failure².

Objectives: In this study, we aim to better characterize the incidence of acute gout flares in patients being treated with intravenous bumetanide for AHF exacerbations.

Methods: This single-center retrospective cohort study included adult patients within an urban tertiary-care center hospital between 5 August 2016 and 30 June 2018. Chart review was performed to identify 130 patients who were hospitalized for AHF exacerbations, received intravenous (IV) bumetanide, and developed an acute gout flare for a total of 176 cases (Figure 1).

Figure 1 Patient Selection

Patients were identified as having an acute gout flare if the primary treating physician(s) documented a clinical picture congruous with acute gout (e.g., onset of a painful, swollen, or erythematous joint) and administered conventional treatment for acute gout including non-steroidal anti-inflammatory agents (NSAIDs), steroids, colchicine, urate-lowering therapies, and/or intra-articular joint injection with symptomatic improvement.

Results: The annualized incidence of acute gout while receiving IV bumetanide for a heart failure exacerbation is 7.17%.

There was no statistical difference in age, gender, race, or BMI among patients who developed acute gout compared with those who did not develop acute gout while receiving IV bumetanide.

An acute gout flare that occurred during treatment of AHF with IV bumetanide increased hospital length of stay (LOS) by 3 days (mean LOS 15.2 days in those who had acute gout, mean LOS 11.6 days in those who did not [p-value 0.277]). Patients who received allopurinol during their hospitalization for AHF exacerbation had lower 30-day readmission rates for any cause (p-value 0.017, Table 4). There was no reduction in the 30-day readmission rate in patients who received colchicine without allopurinol during their hospitalization for AHF exacerbation. Those with a history of gout had higher readmission rates than those without a history of gout (p-value 0.007).

Conclusion: Gout is known to be a weighty contributor to patients' morbidity and mortality in heart failure, and the occurrence of acute gout flare in AHF exacerbations may be precipitated by the use of loop diuretics. We show that the use of IV bumetanide in patients hospitalized for AHF exacerbations is associated with a 7.17% yearly incidence of acute gout flares. Furthermore, patients with a history of gout were found to have higher readmission rates, and those who received allopurinol during their hospitalization had lower readmission rates.

References:

- [1] Thanassoulis G, Brophy JM, Richard H, Pilote L. Gout, Allopurinol Use, and Heart Failure Outcomes. *Arch Intern Med*. 2019;170(15):1358-1364.
- [2] Struthers AD, Donnan PT, Lindsay P, McNaughton D, Broomhall J, Macdonald TM. Effect of allopurinol on mortality and hospitalisations in chronic heart failure: a retrospective cohort study. *Heart*. 2002;87(3):229-234.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.3309

THU0445 PREVALENCE AND INFLUENCE OF DISEASE DURATION IN THE AMOUNT OF ARTICULAR AND PERIARTICULAR DEPOSITS OF MONOSODIUM URATE (MSU) CRYSTALS IN NON-TREATED GOUTY ARTHRITIS PATIENTS

L. A. Torrens Cid¹, J. Molina Collada¹, C. Y. Soletto¹, L. R. Caballero Motta¹, A. M. Anzola Alfaro¹, A. Ariza¹, I. Castrejón Fernández¹, J. Rivera¹, J. M. Alvaro-Gracia¹, J. C. Nieto¹. ¹Hospital General Universitario Gregorio Marañón, Madrid, Spain

Background: Monosodium urate crystals deposition arthritis (Gout) is the most prevalent inflammatory arthropathy in our society. The use of musculoskeletal ultrasound (MSUS) is emerging as a diagnostic method of patients with gout, mainly in the past few years.

Objectives: Our objective is to establish the prevalence of articular and periarticular ultrasound lesions in patients with known or recent gout diagnosis without urate-lowering therapy (ULT) as well as to analyze the influence of disease duration on these findings.

Methods: Observational, cross-sectional and descriptive study, including patients with diagnosis of Gout (fulfilling the ACR / EULAR Classification Criteria 2015) between September and November 2019 in our Rheumatology service of a tertiary center. Demographic and clinical records were collected (table 1) and MSUS was performed on each patient systematically by two rheumatologists, exploring a total of 20 structures (8 tendons and 12 joints). Suggestive images of MSU crystals deposition were defined following the OMERACT 2015 ultrasound elementary lesions definitions. Deposits included lesions as tophus, hyperechoic aggregates (HA) and double contour (DC).

Table 1. Demographic and laboratory data

Features	Patients (n=38)	%
Sex	Men 34 Women 4	89.5 10.5
Age (years)	Mean ±SD 60±14.43	
Comorbidities	Arterial hypertension 18 Mellitus diabetes 4 Dyslipidemia 13 Smoking 7 Alcohol 14	47.4 10.5 34.2 18.4 36.8
BMI (Kg/m2)	Mean±SD 27.3±4.23	
Blood urate levels (mg/dL)	Mean±SD 8.2±1.74	
Blood creatinine levels (mg/dL)	Mean±SD 1.09±0.75	

Results: A total of 38 patients were included, 34 men (89.5%) and 4 women (10.5%). Twenty seven (71.1%) presented MSU crystals in synovial fluid samples, while rest of them (28.9%) met 2015 ACR / EULAR Classification Criteria for Gout. Disease duration (since onset of symptoms) was less than 6 months in 20 patients (52.6%) and longer than 6 months in 18 (47.36%). Thirty seven patients (97.36%) presented some type of MSU deposits on the explored areas. One hundred and thirty (17.10%), out of 760 explored locations, had MSU deposits. Patients with disease duration less than 6 months had 56 locations with deposits (43.07%), while those with a symptomatology longer than 6 months had 74 locations with deposits (56.92%). Left knee was the most frequent location of UMS deposits (78.95%). Out of the 145 MSUS images with elementary lesions due to MSU crystal deposits, 28 were tophi (19.31%), 33 HA (22.75) and 84 DC (57.93%). Out of the total images with deposits (DC, HA and tophi), DC in the left