Table 1. Relative Risk of Incident Gout According to Quintiles of DASH and Western Dietary Pattern Scores

Variable	Frequency of Intake (serving/d)					P for trend
	Q1	Q2	Q3	Q4	Q5	
DASH Diet						
Cases/PY	396/192891	391/195970	366/196511	332/192697	246/193455	
Age-adjusted RR (95% CI)	1.0	0.96 (0.83,1.10)	0.88 (0.77,1.02)	0.81 (0.70,0.94)	0.60 (0.51,0.70)	<0.001
Multivariable RR (95% CI)	1.0	0.90 (0.79,1.04)	0.87 (0.76,1.01)	0.82 (0.70,0.95)	0.68 (0.57,0.80)	<0.001
Western Diet						
Cases/PY	287/190572	347/194533	365/196671	346/197114	386/193182	
Age-adjusted RR (95% CI)	1.0	1.19 (1.02,1.39)	1.25 (1.07,1.46)	1.18 (1.01,1.38)	1.35 (1.16, 1.57)	<0.001
Multivariable RR (95% CI)	1.0	1.09 (0.93,1.28)	1.15 (0.98,1.36)	1.12 (0.94, 1.33)	1.42 (1.16, 1.74)	0.005

Abbreviations: RR, relative risk; CI, confidence interval; PY, person-years.
Age-adjusted models adjusted for age and total energy intake.

Conclusions: The DASH dietary pattern is associated with a lower risk of gout, suggesting that its urate-lowering effect among hyperuricemic individuals translates to a lower risk of gout. Conversely, the Western dietary pattern is associated with a higher risk of gout. The DASH diet may provide an attractive preventive dietary approach for the risk of gout, particularly given the high level of cardiovascular comorbidities among this patient population.

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Disclosure of Interest: None declared

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THU0406 SERUM URIC ACID LOWERING TREATMENT APPEARS UNNECESSARY DURING HEMODIALYSIS

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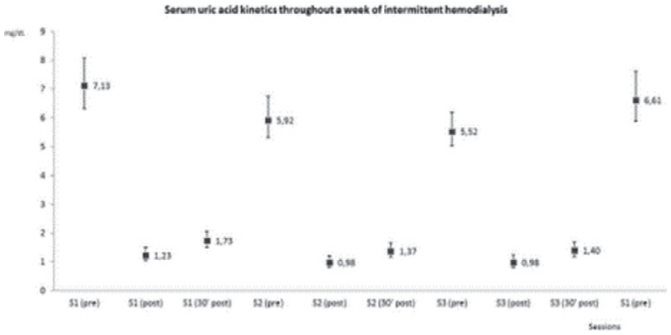
Background: Gout patients often suffer from renal disease, some ultimately developing end-stage renal disease (ESRD) and requiring hemodialysis (HD) replacement therapy. Though some reports suggested that tophi disappear after HD, urate-lowering agents are frequently continued, often based on persistent high SUA levels before HD. Also, the impact of SUA levels in the survival of patients on hemodialysis (HD) is under discussion.

Objectives: To assess the SUA reduction achieved under HD and analyze the kinetics of SUA in a week of intermittent HD.

Methods: SUA levels were determined before and after HD sessions in consecutives 96 patients with end-stage renal disease (ESRD), and compared through paired samples Student's t test. Variables related to HD were analyzed whether associated with SUA reductions ≥80% using Student's t test or ANOVA. Also, a kinetics study on selected 10 patients with hyperuricemia (SUA before HD>6.8 mg/dL) throughout intermittent HD sessions in a week period was performed; differences in SUA levels were analyzed by repeated measures ANOVA.

Results: Patients were mean aged 66.5 years (SD±13.8), 62 males (64.6%). Mean time on HD replacement was 7.1 years (±7.2). Before starting HD, 43.0% had hyperuricemia and 21.6% reported gout. Sixteen (16.4%) continued on urate-lowering agents after HD. Mean SUA levels before and after HD session was 5.2mg/dL (± 1.0) and 1.0mg/dL (±0.4), respectively. Mean SUA reduction following HD was 80.2% (95% CI 78.4–82.0); 51 patients (56.7%) showed SUA reduction ≥80%. HD-related variables Kt/v<1.3 (p=0.006) and blood efflux<400mL/min (p=0.004) significantly associated with achieving SUA reduction ≥80%. Figure shows the SUA kinetics study: SUA significantly reduced all over the period and persisted below hyperuricemia threshold (p=0.015).



Conclusions: Under HD replacement therapy SUA levels effectively reduced and persisted below saturation point, suggesting that urate-lowering therapy appears unnecessary for patients with gout and ESRD.

Disclosure of Interest: None declared

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THU0407 HIGH GOUT CLASSIFICATION SCORE IS ASSOCIATED WITH ULTRASOUND FINDINGS IN PATIENTS WITH CRYSTAL-PROVEN GOUT

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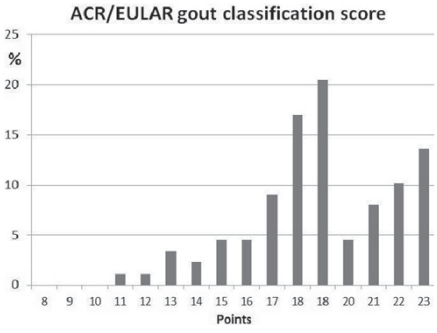
Background: The recent ACR/EULAR classification (1) classify gout in patients with at least 8 out of maximum 23 points, but presence of monosodium urate crystals in a symptomatic joint/tophus alone is sufficient for gout classification without need for further scoring. It is not known how in crystal-proven patients with increased serum urate (sUA) the whole range of classification points distribute.

Objectives: To determine the distribution along the spectrum of ACR/EULAR criteria in crystal-proven patients with insufficiently treated sUA levels, and if disease factors in gout are associated with high classification scores.

Methods: Baseline data from a prospective observational study were used from patients with crystal-proven gout who presented after a recent gout flare. Included patients had at baseline insufficiently treated sUA level (>360 μmol/L [>6 mg/dl]). Demographic, clinical data and sUA levels were collected from September 2015 to December 2016 in one rheumatology department. Ultrasound of joints was assessed with one total score for double contour sign, tophus, and aggregates in several joints and tendons/entheses. The score for ACR/EULAR criteria for gout was calculated.

Results: 89 patients were included, with baseline mean (SD) age 56.0 (14.8) years, 92% males, 88% Caucasians, disease duration 7.9 (7.3) years, presence of palpable tophi 19%, ultrasound score 19.9 (13.8), serum urate 486 (90) μmol/L, creatinine 78 (18) ml/min, creatinine clearance 78 (18) ml/min, ESR 14 (14) mm/h, body mass index 29.4 (4.9) kg/m^2, comorbidity score [SCQ] 3.5 (3.2), and physical function [HAQ] 0.34 (0.51). All patients satisfied clearly the scoring arm of the classification criteria with a median (range) 19 (11 – 23) of 23 possible points (Figure 1). Patients with a median and higher score above the median (≥19 points) vs. lower score reported more gout flares during the last 12 months (p<0.001), had longer disease duration (9.2 vs. 6.2 yrs, p=0.05), and a higher ultrasound score (23.9 vs. 14.9, p=0.001). The groups with high and low scores were similar for age, gender, ethnicity, level of education, BMI, physical function, comorbidity score, sUA level and kidney function.



Conclusions: As expected, patients seen in the clinic with crystal-proven gout and at least slightly increased sUA also satisfy the scoring arm of the new classification criteria for gout, supporting their clinical use. Patients with classification points above the median had more flares in the preceding year, and a higher urate burden assessed by ultrasound, but did not have other indicators for a more severe disease.

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THU0408 GOUT IS AN IMPORTANT PREDICTOR OF WORK DISABILITY IN BOTH MEN AND WOMEN

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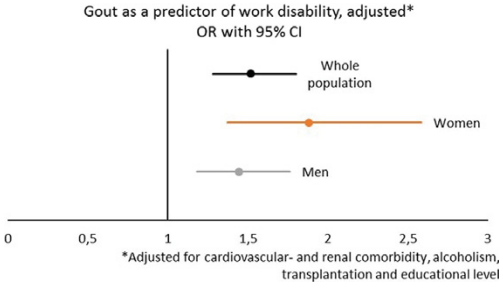
Background: Gout is the most common form of inflammatory arthritis with a prevalence of 1.5% in our area in the age group 50–59 years (1). Gout has a

substantial association with several comorbidities. Studies on the impact of gout on work disability on a population level are scarce.
Objectives: The primary objective of the study was to investigate if gout was a predictor of work absenteeism exceeding 90 days in a calendar year, controlling for comorbidites and socioeconomic status in men and women separately. Another aim of the study was to explore if urate lowering therapy (ULT) attenuated the risk of work disability for gout cases.
Methods: Gout cases were defined in the population based health care database (VEGA) of the Western Swedish Health Care Region (WSHCR) by having a first diagnosis of gout in the years 2003–2009 by ICD-10 codes (M10 and M14.0) in VEGA. Cases were included if their age at the time of diagnosis of gout was ≤62 years. Five controls for each case, matched for age, sex and place of residence were chosen from the census register by Statistics Sweden. Individuals with any work disability in the year before the index year were excluded from analysis. Data on predefined comorbidities registered previous to the index year was collected from VEGA by ICD-10 codes. Data on prescribed medications was collected from the national prescription database. Data on educational level, income and number of days per calendar year with sick-leave and disability pension was provided by Statistics Sweden. Conditional logistic regression taking into account the 1-to-5 matched design of the study was performed in individuals without work disability in the year before the index date for the outcome of ≥25% (≥90 days) work disability in the year after the index year. Possible predictors of work disability for gout cases were analyzed using logistic regression
Results: 3068 incident gout cases (females N=554 (18%)) of working age without prior work disability were matched to 15,077 population controls. After matching, 3258 controls with prior work disability were excluded leaving 11,819 controls for analysis. Of the women with gout, 69 (12.5%) became ≥25% work disabled in the year after the index-year as opposed to 117 (6.1%) of the female controls, p<0,0001. 163 men with gout (6,5%) became ≥25% disabled vs. 377 (3.8%) of male controls, p<0,0001. After adjusting for comorbidities and educational level gout increased the risk of work disability to a similar extent for men (OR 1.4, 95% CI 1.2–1.8) and women (OR 1.9, 95% CI 1.4–2.6). Cardiovascular and renal comorbidity as well as alcoholism, female sex and low educational level (less than 12 years) were important predictors of work disability in gout patients whereas receiving ULT during the time period being studied did not attenuate the risk (OR 0.8, 95% CI 0.5–1.1).



Conclusions: Gout is a significant independent predictor of work disability in both men and women. ULT did not attenuate the risk of work disability early after diagnosis for gout cases in this study, possibly explained by under-prescribing and sub-optimal dosage as previously shown in our region (1).
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Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4022

THU0409 NOT JUST A SWOLLEN BIG TOE: INCREASING ALL-CAUSE HOSPITALIZATIONS IN PATIENTS WITH GOUT IN THE UNITED STATES: 1993–2014

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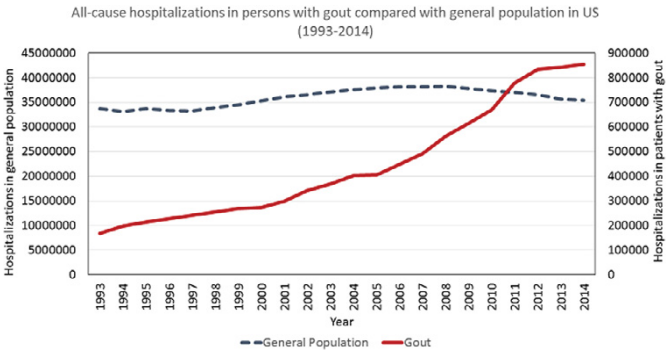
Background: Gout is a disorder of uric acid metabolism and often presents as acute severe joint pain. However, several recent studies have highlighted systemic complications of associated hyperuricemia in patients with gout, including possible increased risk of renal and cardiovascular comorbidities.
Objectives: To study all-cause hospitalizations in patients with gout in the United States (US) from 1993 to 2014.
Methods: The Nationwide Inpatient Sample (NIS) is a stratified random sample of all US community hospitals. It is the only US national hospital database with information on all patients, regardless of payer, including persons covered by Medicare, Medicaid, private insurance, and the uninsured. We examined all inpatient hospitalizations in NIS from 1993 to 2014 with a primary or secondary diagnosis of gout, and compared them to total all-cause US hospitalizations during the same period. US population estimates and projections for the resident US population were obtained from the US Census Bureau.
Results: There were 789.8 million all-cause hospitalizations in 6.4 billion person-years of observation from 1993 to 2014 (123.4 hospitalizations per 1,000 person-years). During this time-period, 9,741,598 hospitalizations occurred in patients with gout (152.2 per 100,000 person-years). All-cause US hospitalizations increased from 33.7 million in 1993 to 35.4 million in 2014, an increase of 4.8% over 22 years (Figure, dotted blue line). All-cause hospitalizations in gout patients have increased from 167,441 in 1993 (64.2 per 100,000 person-year) to 854,475 in 2014 (267.9 per 100,000 person-years, a dramatic increase of over 410% (p<0.0001, Figure solid red line). In 2014, hospitalizations in gout patients accounted for over 4.6 million hospital days at a total national cost of over US $42.6 billion.



Conclusions: All-cause hospitalizations in patients with gout in the US have significantly increased by 410% in the last 22 years, almost hundred-fold of the 4.8% increase in US population all-cause hospitalization rate in the same time-period. This calls for an increase need for identification and management of serious co-morbid conditions in patients with gout.
Disclosure of Interest: G. Singh Grant/research support from: Horizon Pharmaceuticals, A. Mithal: None declared, A. Mithal: None declared
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THU0410 GOUT AND THE RISK OF INCIDENT ERECTILE DYSFUNCTION: A BODY MASS INDEX-MATCHED POPULATION-BASED STUDY

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Background: Gout is the most common inflammatory arthritis. Erectile dysfunction is common in the general population; however, evidence regarding erectile dysfunction among gout patients is limited.
Objectives: Our purpose was to study whether there was an increased risk of erectile dysfunction among gout patients, as compared with the general population.
Methods: We conducted a cohort study using The Health Improvement Network, an electronic medical record database in the United Kingdom. Up to five individuals without gout were matched to each case of incident gout by age, enrolment time, and body mass index. Multivariate Hazard Ratios for erectile dysfunction were calculated after adjusting for smoking, alcohol consumption, comorbidities and medication use.
Results: We identified 2290 new cases of erectile dysfunction among 38,438 patients with gout (mean age 63.6 years) and 8447 cases among 154,332 individuals in the comparison cohort over a 5-year median follow up (11.9 vs. 10.5 per 1000 person-years, respectively). Univariate (age, entry time and body mass index-matched) and multivariate Hazard Ratios for erectile dysfunction among patients with gout were 1.13 (95% CI, 1.08 to 1.19) and 1.15 (95% CI, 1.09 to 1.21), respectively. In our sensitivity analysis, restricting gout cases to those receiving anti-gout treatment (n=31,227) the magnitude of relative risk was stronger than the primary analysis; (multivariate Hazard Ratios =1.29; 95% CI, 1.22 to 1.37).
Conclusions: This population-based study suggests an increased risk of erectile dysfunction among gout patients, supporting a possible role for hyperuricemia and inflammation as independent risk factors for erectile dysfunction.
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Disclosure of Interest: N. Schlesinger Grant/research support from: Astra Zeneca, Consultant for: Astra Zeneca, Horizon, Celgene, ProteoThera, Pfizer, N. Lu: None declared, H. Choi Grant/research support from: Astra Zeneca, Consultant for: Takeda, Selecta
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