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TABLE 1

BASILINE DEMOGRAPHICS	TOTAL PATIENTS (n=200)	PATIENTS WITH A GOUT FLARE (n=54)	RHEUMATOLOGY CONSULT (n=37)	PRIMARY TEAM (n=17)
Age (years)	70.99 ± 12.33	69.89 ± 11.28	70.62 ± 11.94	68.29 ± 9.82
RACE N(%)	164(82)/30 (15)/6(3)	49(90.8)/3(5.5)/2 (3.7)	32(86.4)/3(8)/2(5.4)	17(100)/0/0
African-American/ Caucasian/Others				
BMI (kg/m ²)	31.39 ± 9.21	31.79 ± 8.83	31.71 ± 7.75	31.94 ± 10.88
Hypertension	177(88.5)	48 (88.9)	32 (84)	16 (94)
Diabetes mellitus	84 (42)	25 (46)	18 (48.6)	7 (41)
Renal dysfunction	139 (69.5)	43 (79.6)	29 (78)	14 (41)
Cardiovascular disease	119 (59.5)	25 (46.3)	17 (46)	8 (47)

TABLE 2

	TOTAL PATIENTS (n=200)	PATIENTS WITH A GOUT FLARE (n=54)	RHEUMATOLOGY CONSULT (n=37)	PRIMARY TEAM (n=17)
No of patient on chronic Gout medications N (%)	169 (84.5)	38 (70)	24 (64.8)	14 (82)
Allopurinol/Febuxostat	139 (69.5)/2 (1)	23 (42.6)/2 (3.7)	15 (40.5) 2 (5.4)	7 (41.2)/0
Colchicine	50 (25)	25 (46.3)	15 (40.5)	9 (52.9)
Combination of drugs	22 (11)	12 (22.2)	8 (18.9)	2 (11.7)
Inpatient	117 (58.5)	16 (29.6)	10 (27)	6 (82)
Continuation of medication				
Medications on discharge	153 (76.5)	35 (64.8)	24(64.8)	11 (78.5)
Length of Hospitalization (days)	5.00 ± 4.83	5.06 ± 2.56	4.73 ± 2.34	5.81 ± 2.99
Rheumatology follow up: N (%)	35 (17.5)	25 (46.3)	23 (62)	2 (11.7)

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SAT0444 DETECTION OF CLINICAL FORMS AND RISK FACTORS OF CPPD DEPENDING ON AGE

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Background: CPPD is more often diagnosed in elderly and old age. The age peculiarities of the disease are not studied well.

Objectives: to assess clinical forms of CPPD, impact of risk factors and concomitant diseases depending on age.

Methods: the study included 113 patients (59 women and 54 men) with verified diagnosis of CPPD (according to McCarty criteria); all had calcium pyrophosphate dehydrate depositions in synovial fluid. The mean age was 60.2±11.8 years. Roentgenography of knee joints was conducted in anteroposterior and lateral views, of hands – in frontal view. The patients were divided into two groups: <55 years – 38 patients, with the mean age of 46.7±7.1 years; and >55 years – 75 patients, with the mean age of 65.5±7.8 years.

The study compared clinical characteristics according to the classification (presence of acute or chronic arthritis, osteoarthritis (OA) with CPP crystals, VAS pain assessment, presence of chondrocalcinosis of hands and knees according to roentgenography images, presence in past history of injuries and familial chondrocalcinosis, and presence of hypomagnesemia, hyperparathyroidism); presence of concomitant diseases (rheumatoid arthritis (RA), gout, chronic kidney disease (CKD) (over stage 3 GFR <60 mL/min/1.73m² using the MDRD formula), reception of diuretics.

Results: chronic arthritis was detected more often in the patients >55 years (63 pts (84%) as against the patients <55 years (13 pts (34%)) (p=0.001). On the contrary, acute arthritis was registered more often in the patients <55 years (in 10 pts (26%) than in the patients >55 years

(in 4 pts (5%) (p=0.014), as well as OA with CPP crystals – in 15 pts (40%) <55 years and in 8 pts (11%) >55 years (p=0.003). The mean VAS in the group >55 years was 51±20 mm and in the group <55 years – 40±20 mm. During the past year, reception of NSAIDs or colchicine due to painful joints was significantly more often needed by the patients >55 years – 68 pts (91%) than the patients <55 years – 29 pts (76%) (p=0.005). Familial chondrocalcinosis was registered equally often in the patients <55 years – 6 pts (16%) and in the patients >55 years – 2 (3%) (p=0.46).

According to the roentgenography images, knee chondrocalcinosis was significantly more often registered in the patients >55 years – 49 pts (65%) than in the patients <55 years – 14 pts (37%) (p=0.001). According to the hands roentgenography, chondrocalcinosis was detected equally often in the patients <55 years – 21 pts (55%) and in the patients >55 years – 36 pts (48%).

Hyperparathyroidism was almost equally often detected in the patients >55 years – in 8 pts (11%) and in the patients <55 years – 6 pts (16%) (p=0.48), as well as its combination with gout in 20 pts (27%) and 8 pts (21%) respectively (p=0.44); hypomagnesemia was registered in 1 patient (3%) <55 years, and its combination with rheumatoid arthritis was not registered in the patients <55 years, whilst in the patients >55 years it was detected in 5 pts (7%) (p=0.09). Presence of CKD was detected in 2 pts (6%) <55 years and in 10 pts (13%) >55 years (p=0.2). Its combination with OA was registered significantly more often in the patients >55 – in 59 pts (79%) than in the patients <55 years – 9 pts (24%) (p=0.005).

Diuretics were more often received by the patients >55 years – 27 pts (36%) than by the patients <55 years – 5 pts (13%) (p=0.006).

There were no significant differences detected in the presence of joint injuries in past history – in 22 pts (58%) <55 years and in 35 pts (47%) >55 years.

Conclusion: Prevalence of CPPD in young people may be underestimated; the frequency of detection of factors associated with CPPD in different age groups is identical, excluding OA, which is more often diagnosed in patients >55 years. The patients with CPPD >55 years are more often diagnosed with chronic form of arthritis, they more often need to receive NSAIDs and colchicine and more often are diagnosed with chondrocalcinosis of the knee.

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SAT0445 ADEQUATE URATE LOWERING THERAPY FOR GOUT IS RARE IN CLINICAL PRACTICE BUT PRESERVES RENAL FUNCTION WHEN EFFECTED

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Background: Optimal urate lowering therapy (ULT) as defined by most guidelines requires monitoring of serum urate (SU) and titration of the medication dose to achieve a target level of SU. In Sweden, allopurinol is the most widely used ULT and most patients with gout are managed in primary care. As a first step towards implementation of gout treatment guidelines in the Swedish region of Dalarna, we undertook a register study to assess how allopurinol is prescribed and to what extent monitoring of SU takes place.

Objectives: To determine the proportion of patients with gout that receive a) ULT and b) adequate ULT and to determine to what extent SU is monitored. A secondary aim was to explore the effects of adequate ULT on SU and estimated glomerular filtration rate (eGFR) over time.

Methods: Data was retrieved from the electronic healthcare record database of the region. The database holds records of all diagnoses at visits to physicians, prescriptions made in primary care as well as results of laboratory tests. We searched the database from 1997-2012 for individuals with a first diagnosis of gout during 2000-2012 and retrieved data for all prescriptions of allopurinol for the identified patients. Results and dates of SU and creatinine measurements after gout diagnosis were retrieved. MDRD eGFR was calculated from s-creatinine, sex and the age of the patient at the time of measurement. The value nearest in time before initiation of ULT was defined as the baseline measurement for both urate and creatinine. Duration of therapy was defined as number of days from first to last prescription adding 365 days (the usual period for which chronic medication is prescribed in Sweden). The mean daily dose of allopurinol was estimated from prescription data.

Adequate ULT was defined as a mean daily dose of at least 300 mg of allopurinol and a duration of therapy of at least 2 years. Patients that had received adequate ULT were matched using propensity score on the basis of baseline eGFR and length of follow-up time to patients that received non-adequate ULT. Change from baseline in SU and eGFR was calculated and compared between groups.

Results: We identified 5433 patients with an incident gout diagnosis during 2000-2012 (and no gout diagnosis or prescription for ULT during 1997-1999).

Of these, 2393 (44%) received at least one prescription for allopurinol. SU was measured at some time point after initiation of ULT in 58% of patients. Adequate ULT as defined above was prescribed for 154 patients (3%), of these, 112 (73%) had a SU measurement at some time point after initiation of therapy and 35 (23%) had such a measurement done within 6 weeks of starting treatment.

Matched controls could be identified for 109 of the patients with adequate ULT. Mean urate and eGFR at the start of therapy and end of follow up for the group with adequate ULT treatment and the controls are shown in table 1.

Table 1. Values are mean (SD) or n (%)

	Adequate ULT, n=109	Matched controls, n=109	p-value
Age	66 (14)	68 (13)	0.19
Female, n (%)	25 (23)	38 (35)	0.05
Allopurinol daily dose in mg	359 (61)	119 (63)	<0.0001
Baseline s-urate, $\mu\text{mol/L}$	511 (111)	509 (100)	0.91
Baseline eGFR, ml/min	66 (21)	66 (21)	0.84
Length of follow-up, years	4.2 (3.5)	5.2 (3.9)	0.05
Δ s-urate, (baseline compared to last available value)	-168 (153)	-78 (125)	<0.0001
Δ e-GFR (baseline compared to last available value)	-1 (15)	-5 (16)	0.039
Last eGFR worse than baseline measurement, n (%)	50 (46)	67 (61)	0.021

Conclusion: ULT was prescribed to less than half of the patients identified. Adequate ULT was rare in clinical practice during the time period studied. Urate monitoring occurred in less than half of ULT-treated patients. The patients with adequate ULT achieved greater lowering of serum urate than matched controls and were more likely to maintain unchanged renal function over time.

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SAT0446

GOUT IN THE US: SIGNIFICANT ASSOCIATIONS WITH CARDIOVASCULAR AND RENAL DISEASE HOSPITALIZATIONS

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Background: Gout is a disorder of uric acid metabolism and often presents as acute severe joint pain. Previous work from our group suggests that all-cause hospitalizations in patients with gout in the United States (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. The current study focused on identifying potential reasons for the excess hospitalizations.

Objectives: To compare the primary reasons for hospitalizations in patients with gout to those in age-matched patients without gout in the US in 2016.

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 the NIS in 2016 among patients 40 years or older with a primary or secondary diagnosis of gout and compared them to total all-cause hospitalizations in patients without a gout diagnosis in the same age group during the same period. Over 69,800 ICD 10 diagnoses codes were collapsed into a smaller number of clinically meaningful categories, consistent with the Centers for Disease Control (CDC) Clinical Classification Software. The top 15

primary causes for hospitalization were evaluated and compared between the two cohorts.

Results: In 2016, there were 892,379 all-cause hospitalizations in the US in patients with gout with 14,135 (1.6%) of these for a primary diagnosis of gout. The primary diagnoses for 878,244 hospitalizations in patients with gout were compared with those in 21.9 million hospitalizations in the general US population without gout. The most common primary cause of hospitalizations in both cohorts was septicemia (7.8% in gout vs. 7.4% in general population). Significant differences were seen in several other categories. For example, acute renal failure was twice as frequent among gout patients (39,455 hospitalizations, 4.5%) compared to the general population (458,920 hospitalizations, 2.1%) (Relative Risk (RR) 2.11, 95% CI 2.08 – 2.13, $p < 0.0001$). Hospitalizations for "hypertensive complications and secondary hypertension" were also higher (35,435, 4.0% in gout vs 370,400, 1.7% in general population, RR 2.35, 95% CI 2.32 – 2.37, $p < 0.0001$). Hospitalizations from gastrointestinal bleeding were 30% more common in gout patients, perhaps associated with concomitant NSAID treatments (Figure).

Conclusion: Among patients with gout, a far greater proportion of serious hospitalizations are related to renal and cardiovascular complications as compared to age-matched general population. This calls for an increased awareness and management of serious co-morbid conditions in patients with gout.

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Figure

Primary reasons for comorbid hospitalizations more common in patients with gout compared with age-matched patients without gout, classified by Centers for Disease Control Clinical Classification Software (CDC CCS).

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SAT0447

MANAGEMENT OF GOUT: AN AUDIT IN PRIMARY CARE GENERAL PRACTICE IN LEICESTERSHIRE, UNITED KINGDOM

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Background: Both acute and long-term management of gout in primary care in UK is reportedly suboptimal¹, with patients rarely being offered lifestyle advice or urate Lowering Therapy (ULT). Further, ULT is often not titrated according to the patient's serum uric acid (sUA) levels, so that they fail to achieve target sUA levels.

Objectives: To audit and evaluate the management of gout in patients in a primary care setting against the current guidelines treat to target guidelines set by the British Society of Rheumatology (BSR)².