predictor to detect patients with urinary uric acid underexcretion, who could then be treated with uricosuric drugs.

Disclosure of Interest: None declared

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FRI0249 AUDIT OF THE MANAGEMENT OF GOUT -ARE WE DOING IT RIGHT?

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Background: Gout is the most prevalent inflammatory arthritis, affecting 2.5% of adults in the UK. However, management is often inadequate in both primary and secondary care, with only 45% of patients achieving target serum urate (SUA) level $<360\mu\text{mol/L}$ over 12 months in UK rheumatology clinics. A better understanding of how well gout is managed in different areas of our service (discharge to GP, general rheumatology follow-up clinics, and specialist gout clinic) will inform service redesign.

Objectives: To compare the management of gout in the rheumatology service against the 2007 British Society for Rheumatology (BSR) and 2006 European League Against Rheumatism (EULAR) gout guidelines, and the NICE febuxostat technology appraisal (TA164).

Methods: We retrospectively audited all new out-patient referrals with gout seen in our department over a 12 month period (January-December 2015). Data were collected by electronic review of case notes and completion of a structured proforma. Three mutually exclusive groups were compared: those seen once in rheumatology and discharged to GP (group1), followed-up in general rheumatology clinics (group2), or followed-up in a specialist gout clinic (group3). Follow-up SUA levels were specifically compared to EULAR ($<360\mu\text{mol/L}$) and BSR ($<300\mu\text{mol/L}$) treatment targets.

Results: 150 new consecutive gout referrals (50 per group) were included in the audit: 83% were male and mean age was 62 years. Gout was diagnosed by monosodium urate crystal identification in 16 (11%) and 25% had tophi. 43 (29%) patients were already on ULT, and 107 (71%) patients were newly commenced on ULT. Prophylactic medications were co-prescribed in 86% (130) cases. 44 patients were taking diuretics; diuretics were advised to be stopped or reduced in 12% cases. Nearly all patients starting allopurinol commenced a daily dose of $\leq 100\text{ mg}$ (99% cases). Of the patients started on a uricosuric/febuxostat, 92% had taken allopurinol previously. Of the 15 patients commenced on febuxostat, 3 (15%) had ischaemic heart disease (IHD) or cardiac failure. Chronic kidney disease (CKD) stage 3 (group1 28%, group2 22%, group3 34%), CKD stage 4/5 (2%, 2%, 10%), IHD/cardiac failure (30%, 30%, 40%), clinically evident tophi (16%, 18%, 42%) and previous allopurinol intolerance (10%, 14%, 24%) were more common in group 3 than groups 1 and 2. After 12 months, only 90 (60%) patients achieved target $<360\mu\text{mol/L}$ (group1 42%, group2 64%, group3 62%) and 47 (31%) patients achieved target SUA $<300\mu\text{mol/L}$ (group1 20%, group2 34%, group3 36%).

Conclusions: Allopurinol starting dose, use of prophylaxis, and use of allopurinol first-line concurred well with national and international guidelines. We achieved target SUA levels more commonly than the UK national average in a recent national rheumatology audit. Patients discharged to the GP with a management plan prior to achieving a target SUA level achieved target less frequently suggesting that rheumatologists should follow patients in order to ensure treatment is escalated until the target SUA level is achieved.

Disclosure of Interest: None declared

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FRI0250 BELIEFS ABOUT MEDICINES AMONG GOUT PATIENTS – DATA FROM THE NOR-GOUT STUDY

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Background: Low adherence to medication is a concern in gout where urate lowering therapy (ULT) is indicated to prevent disease severity and comorbidities. The beliefs patients have about medication may impact on the success of achieving these treatment goals.

Objectives: To study which factors were associated to beliefs about medicines in patients with a recent gout attack and a need for ULT.

Methods: Baseline data from a prospective observational study were used in patients with crystal-proven gout who presented after a recent gout flare with insufficiently treated serum urate (sUA) level ($>360\mu\text{mol/L}$ / $>6\text{ mg/dl}$). In these patients a treat-to-target approach was planned to meet the treatment target (sUA $<360\mu\text{mol/L}$, or $<300\mu\text{mol/L}$ if clinical tophi). Assessment included demographic and clinical data, baseline serum urate levels, medication, self-administered

comorbidity questionnaire (SCQ), physical function (HAQ), and SF-36 mental (MCS) and physical component summaries.

The Beliefs in Medicines Questionnaire (BMQ)¹ assesses patient beliefs about medicines on four subscales: necessity and concerns specific for the patient, and generally on overuse and harm. Respondents indicated their degree of agreement with each individual statement about medicines on a 5-point Likert scale, (1=strongly disagree to 5=strongly agree). Scores within the four subscales (necessity, concerns, overuse, harm) were summed (ranges 5–25 and 4–20). Calculation of the necessity-concerns differential gave the relative importance for the patient for taking medicines.

Results: 163 patients were included at baseline, 93.3% men, 90.5% caucasian, mean (SD) age 57.0 (14.1) years, disease duration 8.0 (7.7) years. Mean sUA level was 487 (SD 82) $\mu\text{mol/L}$ at baseline, body mass index 28.9 (4.7) kg/m^2 , comorbidity score (SCQ) 3.6 (3.2), and physical function (HAQ) 0.35 (0.55). 18.8% (n=28) had tophi, and 30.1% (n=43) were using allopurinol.

Scores for the BMQ subscales (SD) were for necessity 16.8 (4.3), concerns 13.7 (5.0), overuse 10.6 (2.7), and harm 9.5 (2.4). The specific necessity-concerns differential was 3.1 (5.7), with median 2.5. Patients expressing higher versus lower beliefs in importance of medication (necessity-concern higher than median) demonstrated in bivariate comparisons statistically significant differences (table 1). The level of serum urate was not associated with any BMQ subscale.

In logistic regression analyses, also adjusting for age and gender in the final model, high beliefs in the relative importance of medication were independently associated with not using allopurinol medication (OR 0.41, 95% CI 0.18–0.94), with higher BMI (OR=1.11 per unit, 95% CI 1.02–1.20), and better mental health (SF36 MCS) (OR 1.04 per unit, 95% CI 1.01–1.08).

	High belief (>median)	Low belief	p-value
BMI	29.6	28.2	0.048
Comorbidity score (SCQ)	2.3	4.4	0.02
Taking allopurinol	25.8%	37.9%	0.09
SF36 MCS	50.8	47.1	0.03
BMQ overuse	9.9	11.4	0.001
BMQ harm	8.9	10.2	0.001

Conclusions: Unexpectedly, using allopurinol medication was inversely associated with high beliefs, whereas higher BMI and better mental health were positively associated with high beliefs in the importance of medication in gout patients. These findings do not allow conclusions on causality, and beliefs in medicines in gout patients should also be studied longitudinally and in relationship to therapy response.

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FRI0251 PREVALENCE OF GOUT AND THE USE OF URATE LOWERING AGENTS IN US GENERAL POPULATION NHANES 2007–2016

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Background: The prevalence of gout has been increasing worldwide. Previous study using National Health and Nutritional Examination Survey (NHANES) showed an increase of 1.2% in the prevalence of gout in the US general population from 1988 to 2007. However, it is unknown if this trend continued over the past decades. Therefore, we would like to determine the prevalence of gout in the US general population using NHANES 2007 to 2016. In addition, the use of urate lowering agents among patients with gout was analysed.

Objectives: To estimate the prevalence of gout and the use of urate lowering agents using the National Health and Nutritional Examination Survey from 2007 to 2016

Methods: Adult participants in NHANES 2007–2016 were included in the analysis. NHANES is a continuous national survey conducted by the US Centres for Disease Control and Prevention and is designed to evaluate the health and nutritional status of adults and children in the US. They are based on a representative sample of the non-institutionalised US civilian population. Each participant represents approximately 50000 Americans.

The primary outcome was self-reported gout. Factors associated with gout, such as body weight, drinking habit, history of chronic kidney disease, use of aspirin and thiazide diuretics were evaluated. Prescriptions of allopurinol, febuxostat or probenacid were retrieved from the NHANES dataset to evaluate the use of urate lowering agents among patients with gout.