history and comorbidities), and biological data were collected, and their association with DECT MSU crystal volume was analyzed using bivariate and multivariate analyses. A second bivariate analysis was performed by splitting the dataset depending on an arbitrary threshold of DECT MSU volume (1 cm³).

Results: A total of 125 gout patients were included, of whom 91 underwent both DECT scans of knees and feet. In bivariate analysis, age ($p=0.03$), symptom duration ($p=0.003$), subcutaneous tophi ($p=0.004$), hypertension ($p=0.02$), diabetes mellitus ($p=0.05$), and chronic heart failure ($p=0.03$) were associated with the total DECT volume of MSU crystal deposition. In multivariate analysis, factors associated with DECT MSU volumes ≥ 1 cm³ were gout duration (OR for each 10-year increase 3.15 [1.60;7.63]), diabetes mellitus (OR 4.75 [1.58;15.63]), and chronic heart failure (OR 7.82 [2.29;31.38]). The model performance was good with an AUC of 0.816.

Conclusion: Specific comorbidities, particularly chronic heart failure, diabetes mellitus, and hypertension, are more strongly associated with increased MSU crystal deposition in knees and feet than gout duration, regardless of serum urate level.

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THU0438

INADEQUATE CARE FOR PATIENTS HOSPITALISED WITH GOUT: EVIDENCE THAT EULAR GUIDANCE IS NOT UTILISED

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Background: Hospitalisations due to gout have increased over the last decade, in direct contrast to declining admissions for other inflammatory arthritides including RA [1]. Gout is a treatable condition with recently published EULAR guidelines [2, 3]. Admissions could be avoided with effective use of urate-lowering therapies (ULT).

Objectives: We hypothesised that the majority of patients attending hospital with acute gout attacks would not be on ULT. Furthermore, we hypothesised that the majority of patients would not be provided with a plan for ULT commencement and/or uptitration on discharge, leaving them at risk of further hospitalisations.

Methods: We retrospectively analysed electronic health records for all patients presenting acutely with a primary admission diagnosis of gout (ICD-10 code: M10) at two hospitals in London, UK, from January – December 2017. Analyses of in-hospital gout management were performed for these patients, including to ascertain the number and proportion of patients who: i) had a known history of gout; ii) were receiving ULT at time of attendance; iii) were provided with a discharge plan for ULT commencement and/or uptitration.

Results: Over a 12-month period, there were 234 emergency attendances for gout in 225 individuals. 80% were male, with a mean age of 58 years. 70/234 (30%) attendances resulted in admission to hospital (mean length of stay: 2 days; range: 0-31 days). 211 patients had routinely captured clinical data available for further analysis. 90/211 (43%) patients had prior diagnoses of gout, of whom 38% were on ULT at presentation (32 allopurinol, 2 febuxostat). 38% of patients were discharged with a plan for ULT commencement and/or uptitration. 20 patients re-presented to hospital with acute gout within 12 months (17/20 were not receiving ULT).

Conclusion: Most patients hospitalised with gout were not receiving ULT, even those with a prior history of gout attacks. Few were provided with a ULT plan, leaving them at risk of re-admission to hospital. Hospital admissions are unpleasant for patients and incur a high economic burden for health services; if they are to be prevented, there must be a concerted effort to implement and follow gout management guidelines to ensure patients receive ULT at appropriate doses.

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THU0439

EFFICACY AND SAFETY OF ANAKINRA IN THE TREATMENT OF RECURRENT GOUT FLARES: RESULTS FROM THE EXTENSION PHASE OF THE ANAGO STUDY

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Background: The anaGO (anakinra in gout) study was a multi-center, randomized, double-blind, double-dummy, phase 2 study investigating the efficacy and safety of anakinra for recurrent gout flares. Results from subsequent flares (extension phase) are presented in relation to the previously reported results from the 1st flare (flare at study enrollment).

Objectives: The objective of the extension phase was to evaluate the efficacy, safety and immunogenicity of two anakinra regimens (100 or 200mg daily s.c. injections for 5 days) compared to triamcinolone (single i.m. injection 40mg) for subsequent flares after initial study enrollment flare. The primary endpoint of the study was change in patient-assessed flare pain intensity from baseline to 24-72 hours (average of 24, 48 and 72 hours) in the most affected joint measured on a visual analogue scale (0-100 VAS). Secondary endpoints included: patient's and physician's assessments of global response, anti-drug antibodies (ADA) and safety.

Methods: The study included patients with acute gout (ACR/EULAR 2015 gout classification criteria) unsuitable for anti-inflammatory therapy with NSAIDs and colchicine due to contraindication, intolerance or inefficacy. Patients were eligible for treatment of subsequent flares for up to 2 years. Each patient received the same treatment for all flares, starting with the flare at enrollment.

Results: 161 patients were treated for 1 flare, 61 patients for 2 flares, 31 patients for 3, and 20 patients for 4 or more flares with 1 patient treated for 9 flares. In total, 300 flares were treated in the full study; anakinra 100mg and 200mg, 107 and 106 flares, respectively; and triamcinolone, 87 flares. Both anakinra doses and triamcinolone provided a clinical meaningful reduction in patient-assessed pain intensity in both the 1st and subsequent flares. Mean changes in pain intensity from baseline to 24-72 hours for total anakinra and triamcinolone were: 1st flare -41.2 and -39.4; 2nd flare -33.9 and -31.1; 3rd flare -31.8 and -51.2, respectively. Mean differences in pain reduction between anakinra and triamcinolone treatment groups were (negative value favors anakinra): 1st flare -1.8, 2nd flare -2.8 3rd flare 19.4. The majority of secondary endpoints favored anakinra, including patient's and physician's global assessment of response and physician's assessment of the joint. No unexpected safety findings during subsequent flares were identified. 21 patients (19.6%) developed ADA to anakinra in low titers at some time point; 7 (6.5%) had pre-existing ADA at baseline and 12 (11.2%) developed treatment induced ADA. 2 patients had pre-existing ADA to triamcinolone at baseline. 4 patients on anakinra (3.7%) developed neutralizing antibodies (NABs). Pre-dose 72 hour anakinra serum concentrations were in similar range for ADA+ and ADA- patients. Presence of ADA was not associated with adverse events or had an impact on pain reduction.

Conclusion: The efficacy and safety of anakinra and triamcinolone in subsequent flares were similar to the findings from 1st flare in patients with acute gout. Patient-assessed pain in the 1st and 2nd flare was reduced to similar degrees in all treatment groups, but to a larger extent in the 3rd flare in the small triamcinolone group. Secondary endpoints were in favor of anakinra across flares 1 to 3. The overall incidence of ADA and NAB was low also after repeated anakinra dosing and did not appear to impact exposure, efficacy or safety. In conclusion, anakinra was shown to be an option in the treatment of recurrent gout flares in patients for whom conventional therapy is unsuitable.

Figure 1: Median patient-assessed pain intensity (VAS) in index joint at each time point over flares

Figure 2: Presence of anti-drug antibodies and neutralizing antibodies over time

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THU0440

LOW DOSE COLCHICINE COMBINED WITH SPORADIC INTRAMUSCULAR INJECTIONS OF BETAMETHASONE – EFFICIENT AND SUSTAINED TREATMENT OF ACUTE GOUTY ARTHRITIS

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Background: Gouty arthritis is a common, potentially disabling and increasingly prevalent disease [1]. The main goals of treatment are to treat acute arthritis, decrease uric acid (UA) levels and prevent occurrence of further attacks. According to 2016 updated EULAR evidence-based recommendations for the management of gout, the most common and efficient options include prescription of colchicine (up to 6 mg during the first day) and intra-articular injections of glucocorticoids (GC) [2]. First option often causes diarrhea, the latter is extremely traumatic and painful in this group of patients.

Objectives: The aim of this study was to determine the efficacy of sustainability of anti-inflammatory effect of combination of low dose colchicine with sporadic intramuscular injections of betamethasone in the treatment of acute gouty arthritis.

Methods: 41 treatment naïve patients with acute gouty arthritis (27 male /65,9 %, 14 female /34,1 %, mean age 55,9 ± 13,7 years, mean disease duration 5,9 ± 4,4 years) were recruited in the study. On the first visit all the patients were prescribed 1.5 mg of colchicine per day and 2 intramuscular injections of betamethasone preparation (7mg-1ml) with an interval of 4 days. On the second visit (30th day) daily dose of colchicine was decreased to 1.0 mg, urate-lowering therapy (ULT) was begun. 21 patients (51,2%) received febuxostat 80 mg/day, 20 patients (48,8%) – allopurinol 100-150 mg/day.

Routine investigation included accurate collection of disease history, objective examination with determining the disease activity (Gout Activity Score /GAS/) and visual analogue scale (VAS patient), CBC, CRP, measurement of serum UA and creatinine level, urinalysis and other examinations [4]. GAS, VAS, CRP and uric acid were measured 3 times: at baseline, on 30th and 60th day of follow-up period.

Results: Investigation had shown the following results at baseline: sUA₁ - 9,2 ± 1,5 mg/dl, CRP₁ - 24,3 ± 21,5 mg/L, VAS₁ - 8,3 ± 1,3 cm, GAS₁ 6,3 ± 0,7. All enrolled patients completed 60 days of treatment. Preparations were well tolerated, no serious adverse events occurred: mild dyspepsia was observed in 4 (9,8%) patients, mild hypertension – in 7 (17,1%), 10 (24,4%) patients had transient diarrhea. Only in 14 out of 41 patients (34,1 %) there was a necessity to add NSAIDs to the main scheme of treatment.

On the second visit (30th day) all investigated measures with exception for UA (sUA₂ - 8,8 ± 1,9 mg/dl, p>0.05) had shown significantly lower results: CRP₂ - 4,9±3,5 mg/dl, VAS₂ - 4,2±1,2 cm, GAS₂ - 4,9 ± 0,7 (p<0.001).

On the third visit (60th day) the following results were obtained: sUA₃ - 4,7 ± 1,3 mg/dl, CRP₃ - 3,5±2,0 mg/L, VAS₃ - 3,3±2,1 cm, GAS₃ - 3,7±0,9. All the measures were significantly lower than at baseline (p<0,001).

During all the follow-up period recurrent attacks of arthritis were observed in 6 patients (14,6%), particularly, only 2 patients experienced arthritis after the prescription of ULT.

Conclusion: Low dose colchicine in combination with sporadic (1-2) intramuscular injections of betamethasone can present as an efficient, non-traumatic, safe and cost-effective option for the treatment of acute gouty arthritis. Moreover, according to results of our study, anti-inflammatory effect was stable even after the prescription of ULT.

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THU0441

DIAGNOSTIC ACCURACY OF THE NIJMENGEN SCORE FOR GOUTY ARTHRITIS IN PATIENTS HOSPITALIZED FOR ACUTE MONOARTHRITIS

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Background: The gold-standard for diagnosis of gout is the identification of monosodium urate (MSU) crystal in joint fluid. However, the sensitivity, specificity, and reproducibility of such analysis are not excellent, and joint aspiration is sometimes difficult, or impossible. The Nijmegen score is an easy-to-use rule without joint fluid analysis with excellent validity, in primary as well as in secondary care (1, 2). However, it's validity as not been evaluated in the particular situation of patients whose acute arthritis necessitates hospitalization.

Objectives: The objective of the present study was to assess diagnosis performances of the score in patients hospitalized for acute monoarthritis.

Methods: **Inclusion:** all patients hospitalized for acute monoarthritis in the rheumatology department of the Dijon University Hospital between 2016 and 2019. **Assessment:** 1- clinical examination by an experimented rheumatologist; 2- joint aspiration and synovial fluid analysis following aspiration; 3- ultrasound (US) examination of the knees, first metatarsophalangeal joints, and arthritic joint by a trained rheumatologist; 4- dual-energy computed tomography (DECT) of the arthritic joint; 5- Nijmegen score (cutoff scores of ≥ 8 needed for diagnosis of gout, and ≤ 4 to rule out gout) and ACR/EULAR 2015 classification criteria (3) (cut-off score of ≥ 8 needed for diagnosis of gout). **Analysis:** positive and negative predictive values, and ROC curve analysis of the Nijmegen score, using as gold-standard on one hand the results of the MSU crystal research, on the other hand those of the ACR/EULAR criteria.

Results: A total of 39 patients were included (mean age = 69.8 ± 15 years, 74.4 % males, mean BMI = 27.5 ± 4.6 Kg/m², mean serum uric acid = 354.6 ± 117.5 μmol/l). The affected joints were the knee (n = 31), ankle (n = 3), hip (n = 2), wrist (n = 2), shoulder (n = 1). Joint fluid analysis revealed MSU crystal in 11 patients. The ACR/EULAR was ≥ 8 in 15 patients. The Nijmegen score was ≥ 8 in 11 patients, including 5 with MSU crystal on joint fluid analysis and 9 with an ACR/EULAR score ≥ 8. The Nijmegen score was ≤ 4 in 15 patients, including 14 with no MSU crystal on joint fluid analysis and 14 with an ACR/EULAR score < 8. The positive predictive values of a Nijmegen score ≥ 8 were 45 % (joint fluid analysis as gold standard) and 81.8 % (ACR/EULAR). The negative predictive values of a Nijmegen score ≤ 4 were 93.3 % (joint fluid analysis and ACR/EULAR as gold standard). On ROC curve analyses, the areas under the curve were 0.763 (95% CI = 0.612 – 0.914) using joint fluid analysis as gold standard (figure 1) and 0.908 (95% CI = 0.814 – 1.0) using the ACR/EULAR score as gold standard (figure 2).