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SAT0439

RENOPROTECTIVE EFFECT OF URATE LOWERING THERAPY IN GOUTY PATIENTS WITH MODERATE CHRONIC KIDNEY DISEASE

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Background: Approximately 25% of gouty patients suffer from chronic kidney disease (CKD). High serum uric acid (sUA) levels have been related to estimated glomerular filtration-rate (eGFR) imbalance. Beneficial effect of treatment with xanthine oxidase inhibitors (XOI), mostly allopurinol, has already been proved in patients with CKD and asymptomatic hyperuricemia. Although several studies have described the efficacy and renal safety of treatment with XOI in gout, few authors have analyzed its effect on GFR in gouty patients with moderate CKD.

Objectives: To assess the effect of XOI therapy in gouty patients with moderate CKD, in terms of eGFR changes.

Methods: In this multicenter, retrospective study, we included patients from 4 centers diagnosed with gout (EULAR/ACR criteria) and stage-3 CKD according to Cockcroft-Gault formula (eGFR 30-59 ml/min/m²) who received XOI (febuxostat and allopurinol) with a follow-up for 6 and 12 months. We used clinical records to collect patient features (age, sex, body mass index, sUA, hypertension (HTA), diabetes mellitus (DM), dyslipidemia (DL), cardiovascular events), treatments (lipid-lowering drugs, anti-hypertensives, antidiabetics, antiplatelet therapy, NSAIDs, urate lowering treatments and colchicine) and gout history (duration of disease, tophi presence, clinical and ultrasonographic (US) pattern (monoarticular, oligoarticular, polyarticular).

Statistical analysis: descriptive analysis of variables. Mixed effects model linear regression Differences were considered significant p<0.05.

Results: 52 patients with gout and stage-3 CKD were identified. We obtained complete 6 and 12-months follow-up from 37 patients (33 males and 4 females). Mean age was 74.11±6.96 years, 32.4% DM, 83.78% HTA, 56% DL, 40% tophaceous gout, Clinical and US pattern (37.8% polyarticular, 37.8 oligoarticular and 24.3% monoarticular). Febuxostat 19 patients, Allopurinol 18. Mean baseline sUA was 8.63±1.33 mg/dl, and baseline eGFR was 47.77±8.45 ml/min/m². To assess the effects of considered variables over eGFR a linear mixed model was adjusted using nlme R-package. Within the adjusted model we obtained significant differences in eGFR between baseline and 6 months (p=0.0081), and between baseline and 12-months (p=0.0028). sUA decreased significantly between baseline and 6 (p=0.0181) and 12 months (p=0.0188).

Conclusion: Reduction of sUA levels in gouty patients with XOI entails an improvement of eGFR in stage-3 CKD. These findings suggest that the response to urate lowering therapy take place in the first 6 months, leading to an improvement in eGFR in this period. From 6 months to 1 year, sUA levels are stabilized and so is eGFR.

REFERENCES

- [1] Tanaka K, Nakayama M, Kanno M, et al. Renoprotective effects of febuxostat in hyperuricemic patients with chronic kidney disease: a parallel-group, randomized, controlled trial. Clin Exp Nephrol 2015
- [2] Juge PA, Truchetet ME, Pillebout E, et al. Efficacy and safety of febuxostat in 73 gouty patients with stage 4/5 chronic kidney disease. A retrospective study of 10 centers. Joint Bone Spine (2016)

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SAT0440

DOES MONOSODIUM URATE DEPOSITION IN GOUT PATIENTS ALTER THE BIOCHEMICAL PROPERTIES OF MENISCAL FIBROCARILAGE AND HYALINE CARILAGE? A DUAL-ENERGY COMPUTED TOMOGRAPHY STUDY

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Background: Dual-energy computed tomography (DECT) is increasingly used in gout to assess monosodium urate (MSU) crystal deposition in soft tissues. In contrast to ultrasound (US) with its typical double-contour (DC) sign, DECT seems unable to identify MSU deposition deep within joints, where flares occur. DECT has recently shown its potential for discriminating between the various crystal types owing to their biochemical signature.

Objectives: We aimed to assess whether DECT attenuation properties differed between knees of gout patients with and without deep articular MSU deposition characterized by the DC sign on US; more specifically if MSU deposition altered the electron density (ρ_e) of various knee structures.

Methods: Consecutive patients with gout were included in this cross-sectional study and their knee MSU burden was assessed using combined DECT and US. Knees were assigned to either DC+ or DC- groups depending on the presence/absence of the DC sign on US. Regions of interest (ROI) were drawn in the following knee zones on a specific coronal DECT image: hyaline cartilage of the patellofemoral and medial and lateral tibiofemoral joint spaces, as well as medial and lateral menisci. Regions of interest that exhibited chondrocalcinosis were excluded. Five DECT parameters were obtained: CT numbers (HU) at 80 and 140 kV, dual-energy index (DEI), electron density (ρ_e), and effective atomic number (Zeff). Knee zones were compared between groups using mixed linear models.

Results: A total of 115 patients were included. Gout duration was 9.8 ±9.0 years, mean serum urate was 7.3±2.3 mg/dL and 48 (41.7%) patients were under urate lowering therapy. Out of a total 230 knees, 46 (20%) were assigned to the DC+ group. Menisci from DC+ and DC- patients had a mean (± standard deviation) Zeff of 7.5±0.2 and 7.6±0.2 (p=0.49), mean ρ_e of 77±14 and 73±13 (p=0.15) and mean DEI of -0.0003±0.0036 and 0.0001±0.0042 (p=1), respectively. Hyaline cartilage from DC+ and DC- patients had a mean Zeff of 7.6±0.2 and 7.7±0.2 (p=0.49), mean ρ_e of 65±21 and 60±18 (p=0.17) and mean DEI of 0.0020±0.0049 and 0.0025±0.0043 (p=1), respectively. No differences were noted between groups in the patellofemoral joint space.

Conclusion: There is an expected increased electron density (ρ_e) in meniscal fibrocartilage and hyaline cartilage of gout patients with MSU deposition, even though DECT measures do not reach statistical significance. Particular attention will be given to patients with high MSU burden (large DC signs on US).

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SAT0441

SKIN ADVERSE EVENTS WITH FEBUXOSTAT IN GOUT PATIENTS WITH PREVIOUS SKIN REACTIONS TO ALLOPURINOL. A MULTICENTRE DESCRIPTIVE STUDY

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Background: Allopurinol is first-line urate-lowering drug (ULD) for patients with gout. However, around 10% of them refer adverse events, often at skin, which can be severe. Febuxostat is a non-purine selective xanthine oxidase inhibitor, often a therapeutic alternative in this setting, though data regarding safety in those patients with previous cutaneous adverse reactions (CAR) to allopurinol is still limited. Some cases and small

retrospective series have reported skin adverse events under both allopurinol and febuxostat.

Objectives: To assess the cutaneous safety of febuxostat when used in patients with previous skin reactions to allopurinol.

Methods: A multicentre retrospective, descriptive study performed in seven Rheumatology units around Spain. Crystal-proven gout patients with previous CAR to allopurinol and treatment with febuxostat were selected. Demographic (age, gender), clinical (skin events, liver disease, concomitant thiazides) and laboratory variables (serum urate (SU), glomerular filtration rate) were collected. The primary study variable was the rate of patients developing CAR also with febuxostat. A descriptive analysis with estimation of 95% confidence interval (95%CI) is presented.

Results: Sixty-seven gout patients with prior allopurinol-related CAR treated with febuxostat were enrolled. Their average age was 68.1 years (SD±14.8), being 49 males (73.1%). Thirteen of them were under thiazide treatment (19.4%) and average glomerular filtration rate was 66.1 ml/min (±24.3) when allopurinol was started, at a median dose of allopurinol of 100 mg/day (IQR 50-300) and mean SU of 8.9 mg/dl (±1.7). The reported CAR under allopurinol were nonspecific in 55 (82.1%), maculopapular rash in 9 (13.4%), and Stevens-Johnson's syndrome in 3 (4.5%). Out of 67 patients, 10 developed CAR with febuxostat (14.9%; 95%CI 8.3-25.3%): nonspecific in 8 cases, one case of maculopapular rash and other of Stevens-Johnson's syndrome. Median (IQR) glomerular filtration rate, starting dose of febuxostat and SU level were 69.5 (42-87.8), 80 mg/day (40-80) and 8.2 mg/dl (7.15-9.14), respectively.

Benzbromarone was initiated in all 10 patients with CAR to both allopurinol and febuxostat, and only one developed a nonspecific rash.

Conclusion: In this multicentre study, around 15% of patients with prior allopurinol-related CARs also developed them with febuxostat. Further prospective and intervention studies are needed to confirm these results, though caution is recommended when using febuxostat in this subgroup of patients.

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SAT0442

CALCIUM PYROPHOSPHATE CRYSTAL ARTHRITIS DURING HOSPITALIZATIONS: A PROSPECTIVE, CRYSTAL-PROVEN CASE SERIES

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Background: Despite having passed more than fifty years after its initial description, essential questions for calcium pyrophosphate (CPP) crystal disease, such as clinical spectrum, diagnosis or management schemes, remain unsolved. Acute flares often occurred during hospitalizations. Scant reports have addressed this common setting for CPP crystal disease, and whether these patients behave similarly to ambulatory cases is unknown.

Objectives: The aim of this work was to describe in a prospective way a crystal-proven case series of patients developing acute CPP crystal arthritis during hospitalizations for another conditions.

Methods: An observational, cross sectional descriptive study was conducted in two Spanish centers from November 2013 to December 2018. A prospective convenience sampling was employed to select patients with crystal-proven CPP acute arthritis seen during hospital admissions. Demographic, clinical and CPP-related variables were collected, and X-rays (pelvis, knees, hands, affected joint when different) and laboratory tests (to rule out associated metabolic conditions) were systematically requested. A descriptive analysis is presented.

Results: 90 episodes of acute CPP arthritis in 87 patients were seen in the study period, with an average age of 81.8 years (SD 7.7), 50.6% of

them men. Approximately 26% of patients reported prior episodes of arthritis, most of them (68.4%) as outpatients. Only three patients were on preventive treatment for CPP arthritis (two on colchicine and one on low dose glucocorticoids). Regarding the acute CPP arthritis during admissions, they were predominantly monoarticular (81.0%) and the main involved joints were knee (46.0%), wrist (13.8%) and ankles (6.9%). The reasons for admission were diverse, with a mean of 7.7 days (SD 9.1) from admission to flare. About X-rays, 23.8% showed no chondrocalcinosis (CC) in the evaluated joints [61/80]. In 57.1% of patients there was chondrocalcinosis in the affected joint [44/77] and regarding usual joints: 74.3% in knees [55/74], 51.5% in triangular carpal ligament [34/66], 25.4% in metacarpo-phalangeal joints [17/67], 20% in pubic symphysis [14/70] and 17.6% in coxofemoral joints [12/68]. A secondary form of osteoarthritis was only seen in 10 patients (12.5%). About associated metabolic diseases, one case of primary hyperparathyroidism-related hypercalcemia and five cases of hypomagnesemia at the time of the flare were detected. In all six patients with a polyarticular presentation, laboratory tests for rheumatoid factor and ACPA were negative.

Conclusion: From the findings of this prospective, crystal-proven series of CPP crystal arthritis in an intrahospital setting, we can remark:

1. The low numbers of previous ambulatory flares may suggest a different clinical entity of CPP disease.
2. Radiological CC was absent in around a quarter of patients despite a extensive assessment, so synovial fluid analysis remains essential for diagnosis.
3. The rarity of associated metabolic diseases seen runs against ruling out secondary causes of CPP disease in this setting.

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SAT0443

RECONCILIATION OF URATE LOWERING THERAPIES DURING HOSPITALIZATION AND THE IMPACT OF RHEUMATOLOGIC CONSULTATION ON MANAGEMENT OF INPATIENT GOUT FLARES

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Background: Hospitalizations complicated by gout flares have an impact on patient care. Delayed diagnosis and suboptimal management can lead to prolonged discomfort, impair chronic outcomes of the disease and lengthen the hospitalization⁽¹⁾. Patients on urate lowering therapy (ULT) are frequently admitted to the hospital for unrelated causes but there is variability in inpatient medication management of the urate lowering agent and acute management of the flare.

Objectives: In this descriptive study, we analyse the variability of reconciliation of ULT on admission and discharge and the impact of rheumatology consultation on acute and chronic management of gout.

Methods: Patients- above the age of 18- admitted to our tertiary care hospital from 01/01/2010 to 01/01/2016 with an ICD-9 or an ICD-10 diagnosis of gout were reviewed. The first 200 patients underwent a retrospective chart review as a pilot study for an ongoing project. We reviewed patient demographics, laboratory testing, and co-morbid conditions; medications on admission and discharge, incidence of gout flare-diagnosis and management during hospitalization, rheumatology consultation and discharge plan for these patients.

Results: Of the 200 patients reviewed, 2.69 admissions per person. We further described the patients who had a gout flare during hospitalization (n =54, 27%). 66% of these patients were males, mean age 69.8 years and BMI 31.78kg/m². A majority of patients had hypertension, renal disease, and dyslipidemia (Table 1).

70% of the patients were on chronic medications for gout (Table 2). 29.6% of these patients were continued on these agents upon admission and only 64.8% of these patient was eventually discharged on these drugs.

Rheumatology consulted for 68.5% of the patients. Arthrocentesis was more frequently performed when rheumatology was consulted (70% vs.17.6%; p<0.001). Rheumatology consultation did not decrease length of stay in the hospital. 78.5% of the patients managed by primary team were discharged on a ULT or colchicine compared to 100% in the group managed by rheumatology consult team (100% vs 78.5%; p<0.0431). Out-patient rheumatology follow up was documented in discharge papers for 62% of the patients managed with rheumatology consult compared to 11.7% in the comparison group. (62% vs 11.7%; p<0.002).

Conclusion: Rheumatology consultation improved adherence to guidelines in diagnosis and management of gout flare and improved the discharge planning and follow up.