periarticular tophi frequently seen in ultrasound appear as the likely source for these formations.

REFERENCE:

- [1] Nat Rev Rheumatol. 2015;11:725.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4718

AB1026 CLINICAL CHARACTERISTICS AND RISK FACTORS FOR GOUT ATTACK DURING THE POSTSURGICAL PERIOD

H. Jeong¹, Y.H. Eun², E.-J. Park³, H. Kim², J.Y. Chai⁴, J. Lee², C.H. Jeon¹.

¹Soonchunhyang University Hospital, Bucheon; ²Samsung Medical Center,

³National Medical Center, Seoul; ⁴Bundang Jesaeng Hospital, Seongnam, Korea, Republic of Ireland

Objectives: To evaluate the clinical features and risk factors for gout attack during the postsurgical period in patients with gout.

Methods: Seventy patients who had histories of gout and had been consulted to rheumatologic clinic before surgery under general anaesthesia at a single tertiary hospital were included. Clinical characteristics of patients who developed postsurgical gout attack were compared with patients who did not developed gout attack.

Results: Among 70 patients, 31 (44.3%) patients developed gout attack during postsurgical period. Mean time of gout attack after surgery was 3.7±4.9 days. Most of attacks involved lower extremity joints (83.9%) and tended to monoarticular involvement (61.3%). Knee joint (26%) and foot except 1st metatarsophalangeal (MTP) joint (26%) were more frequently involved than 1st MTP joint (13%). Uric acid levels before surgery (OR 1.46, 95% CI 1.13–1.88, p=0.004) and amount of uric acid changes between before and after surgery (OR 1.62, 95% CI 1.21–2.18, p=0.001) were risk factors for postsurgical gout attack. Taking medications for gout including uric acid lowering agents and/or colchicine reduced the risk of postsurgical gout attack (OR 0.11, 95% CI 0.04–0.32, p<0.001). Operation time, amount of blood loss during surgery, amount of fluid administration during surgery, and surgery site were not significantly associated with postsurgical gout attack.

Conclusions: Adequate uric acid control and taking medications for gout could prevent the postsurgical gout attack.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3606

AB1027 THE PREDICTIVE VALUE OF CYSTATIN C FOR GOUTY NEPHROPATHY

D. Rekalov, I. Daniuk, G. Medvedchuk. *Internal diseases-3, Zaporizhzhia State Medical University, Zaporizhzhia, Ukraine*

Background: Gout is the most common cause of an inflammatory arthritis in men elder than 30 years, varies up to 1,7% of the total morbidity. One of the most common complication of chronic gout is gouty nephropathy with the morphological signs of kidney damage, even in the early stages.¹

It's well known, that urine albumin and glomerular filtration rate (GFR) are the generally accepted markers of nephropathy. But, recent data has shown, that the informative and obtainable new biomarkers of the kidney function are still needed. Thus, evaluation of the pathogenic role in the renal failure of cystatin C could be a "clue". The dozen trials have shown that an increasing of ranges cystatin C in serum could be tested at the stage of subclinical reduction of GFR with normal level of creatinine.^{2,3}

Objectives: To determine the serum ranges of cystatin C and creatinine as the markers of nephropathy in patients with gout.

Methods: The main group was the 80 males with primary gout (average age – 53,4±8,2 years), with the disease duration from 3 up to 25 years. The second group – 20 healthy men (49,5±4,5). We determined the concentration of serum uric acid, serum cystatin C, creatinine, calculate the GFR using CKD-epi formula. For urine albumin evaluation we used the albumin/creatinine ratio in the morning urine portion.

Results: e determined that the main group identified by more significant violations of renal function. In the main group was found the statistically significant increase of the serum creatinine (97±18 µmol/l) and decrease of GFR (73^{64; 94} ml/min².

The serum cystatin C concentration in the main group was (1,7^{1,4; 1,9} mg/l which was the significantly larger than in the comparison group (0,8 [0,7; 0,92] mg/l, p<0,001).

The albumin/creatinine ratio was statistically higher in the main group (26^{14; 56} mg/g than in comparison (0,8 [0,7; 0,92] mg/l, p<0,001). Also the patients with gout are characterised by the larger concentration of uric acid in the serum (530±74) µmol/l than healthy men (347±75) µmol/l and negative correlation between uric

acid level and GFR (r=-0,4, p<0,05) which explain the increase of uric acid concentration in the serum.

We determined the correlation between level of urine albumin and creatinine concentration (r=+0,5, p<0,05) in the main group, but concentration between albuminuria and cystatin C was stronger (r=+0,6, p<0,05). We detected that cystatin C level had a greater accuracy for the diagnosis of albuminuria than creatinine according to the ROC-analysis. These facts show that serum concentration of cystatin C more closely connected with the renal function than creatinine.

Conclusions: 1. The increase of serum cystatin C level can be identified before the clinical manifestation of renal dysfunction while the serum creatinine remain relatively normal.

2. Serum ranges of cystatin C more closely correlate with elevation of urine albumin than creatinine.

REFERENCES:

- [1] Michael H. et al. Gout and Its Comorbidities/H. Michael Pillinger, S. David Goldfarb, et al. //Bulletin of the NYU Hospital for Joint Diseases. – Vol. 68 (3). – P. 3–10.
[2] Servais A., et al. Is serum cystatin-C a reliable marker for metabolic syndrome? A. Servais, P. Giral, M. Bernard, et al. //Am. J. Med. – 2008. – Vol. 121 (5). – P. 426–432.
[3] Turk V., Stoka V., Turk D. Cystatins: biochemical and structural properties, and medical relevance/V.Turk, V. Stoka, D. Turk//Front Biosci. 2008. – Vol.13. – P. 5406–5420.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3020

AB1028 ACTH VS BETAMETHASONE FOR THE TREATMENT OF ACUTE GOUT IN HOSPITALISED PATIENTS

AN OPEN LABEL, COMPARATIVE STUDY

P. Kordas¹, I. Antonopoulos², D. Velissaris¹, D. Daoussis². ¹Internal Medicine; ²Rheumatology, University of Patras Medical School, Rio, Patras, Greece

Background: The management of gout can be problematic in the hospital setting; hospitalised patients usually have significant comorbidities and receive multiple medications which leads to a high frequency of contraindications to established gout therapies. We have previously shown the ACTH is a safe and fast acting therapeutic option for acute gout in hospitalised patients in a large scale retrospective study.¹

Objectives: To directly compare the efficacy of ACTH vs betamethasone for the treatment of acute gout in hospitalised patients in a prospective manner.

Methods: Hospitalised patients with acute gout, fulfilling the ACR criteria, were treated with an IM injection of either 100 IU of ACTH (Synacthen Depot) or 6 mg of betamethasone (Celestone Chronodose-the most widely use IM steroid formulation in our country) on an alternate 1/1 basis. Clinical efficacy was assessed at 24, 48, 72 hour and 5 days as follows: a) Intensity of pain using a Visual Analogue Scale (VAS 0–10), b) physician global assessment (0–10) and c) swelling, redness and warmth (0–3 scale). Pain VAS was also self reported by the patient at 6 and 12 hour. Comorbidities representing contraindications to established gout therapies were recorded. Primary outcome of the study was the change in pain VAS at 24 and 48 hour. Secondary outcomes were changes in physician global assessment and changes in objective signs of inflammation.

Results: This is a 6 month interim analysis of an ongoing investigator initiated clinical study. Twelve patients (8 male) with a mean ±SD of 66.9±12.3 years were recruited and treated with ACTH or betamethasone on an alternate basis (6 in each treatment group). In most cases (n=11) the attack was monoarticular. The majority of patients had multiple comorbidities with the commonest being hypertension (9/12). Both treatments were effective. ACTH led to a significant decline in pain VAS at 24 hour compared to baseline (mean ±SEM: 2.33±1.21 vs 7.66 ±0.81 respectively, p=0.0002) and at 48 hour (1.40±1.14, p=0.0011 compared to baseline). Betamethasone was also effective with an improvement in pain VAS at 24 hour compared to baseline (mean ±SEM: 1.83±0.98 vs 5.33±2.16 respectively, p=0.0024) and at 48 hour (0.75±0.95, p=0.02 compared to baseline). However, direct comparison between treatment arms showed that ACTH treated patients exhibited a higher change in pain VAS at 24 hour compared to betamethasone treated patients (mean ±SEM: 5.5±0.5 vs 3.5±0.61 respectively, p=0.03). At the 48 hour time point ACTH treated patients still showed a higher change in pain VAS (mean ±SEM: 6.4±0.6 vs 4±0.91 respectively, p=0.056). A trend favouring ACTH was already evident at the 12 hour time point; the change in pain VAS was 4±1.54 vs 3.1±1.47 for ACTH vs betamethasone, respectively, p=ns). No changes in physician global assessment and objective signs of

inflammation was found at 24 and 48 hour between treatment groups. Treatment was well tolerated in both groups.

Conclusions: Both steroids and ACTH are effective in the treatment of gout in hospitalised patients but ACTH is faster acting. ACTH may be an attractive therapeutic choice in patients with multiple comorbidities that cannot receive standard treatment.

REFERENCES:

- [1] Daoussis et al, Joint Bone Spine, 2013

Disclosure of Interest: P. Kordas: None declared, I. Antonopoulos: None declared, D. Velissaris: None declared, D. Daoussis Speakers bureau: Mallinckrodt Pharmaceuticals

DOI: 10.1136/annrheumdis-2018-eular.4193

AB1029

ALLOPURINOL AND CARDIOVASCULAR OUTCOMES IN PATIENTS WITH ISCHAEMIC HEART DISEASE (ALL-HEART) STUDY: BASELINE CHARACTERISTICS OF THE RANDOMISED PATIENT POPULATION

I. Mackenzie¹, I. Ford², C. Hawkey³, A. Begg⁴, J. Taggar³, A. Struthers⁵, L. Wei⁶, A. Avery³, A. Walker⁷, S. Duce¹, R. Barr¹, J. Dumbleton³, T. MacDonald¹, on behalf of the ALL-HEART study group. ¹MEMO Research, University of Dundee, Dundee; ²The Robertson Centre for Biostatistics, University of Glasgow, Glasgow; ³University of Nottingham, Nottingham; ⁴Townhead Medical Practice, Montrose; ⁵University of Dundee, Dundee; ⁶University College London, London; ⁷University of Glasgow, Glasgow, UK

Background: Allopurinol is licensed for the prevention of gout. In recent years, several studies have suggested that allopurinol may have beneficial effects on cardiovascular parameters. The ALL-HEART study is a large outcome trial designed to investigate whether allopurinol improves cardiovascular outcomes in patients with ischaemic heart disease¹. It is a multicentre, controlled, prospective, randomised, open-label, blinded endpoint trial of allopurinol (up to 600 mg daily) versus no treatment added to usual care in patients aged 60 and over with ischaemic heart disease. Patients are followed up by electronic record-linkage and annual questionnaires. Patient recruitment to the trial started in 2014 and completed in 2017 and follow-up is ongoing.

Objectives: To describe the baseline characteristics of the patients randomised into the ALL-HEART study.

Methods: The primary endpoint of the ALL-HEART study is the composite of non-fatal myocardial infarction, non-fatal stroke or cardiovascular death. Secondary outcomes include all-cause mortality, quality of life and cost-effectiveness of allopurinol. The study will end when 631 adjudicated primary outcomes have occurred.

Results: 5938 patients from the UK have been randomised into the ALL-HEART study. The mean age at randomisation was 72.1±6.8 (SD) years. 75.2% of participants are male. 56.5% are former smokers and 9.4% current smokers. Mean systolic blood pressure was 133±18 mmHg and mean diastolic blood pressure 72±11 mmHg. Mean body mass index was 28.9±5.3 kg/m². The average duration of ischaemic heart disease was 11.5±7.9 years. 47.4% of participants had a history of previous myocardial infarction, 64.2% a history of angina, 56.4% a history of coronary revascularisation and 69.3% had other evidence of ischaemic heart disease. 57.6% had a history of hypertension. 3.9% had a history of previous cerebrovascular accident, 7.6% of peripheral arterial disease, 21.8% of diabetes mellitus, 8.9% of chronic obstructive pulmonary disease and 5.2% of heart failure.

Conclusions: This large ongoing trial will determine whether allopurinol improves major cardiovascular outcomes in patients with ischaemic heart disease.

REFERENCE:

- [1] Mackenzie IS, Ford I, Walker A, et al. Multicentre, prospective, randomised, open-label, blinded endpoint trial of the efficacy of allopurinol therapy in improving cardiovascular outcomes in patients with ischaemic heart disease: protocol of the ALL-HEART study. *BMJ Open* 2016;6:e13774. doi:10.1136/bmjopen-2016-013774.

Acknowledgements: This study is funded by the National Institute for Health Research, Health Technology Assessment programme (<http://www.nihr.ac.uk>) (HTA 11/36/41). The study is sponsored by the University of Dundee and NHS Tayside. The study is supported by the Scottish Primary Care Research Network, Support for Science in Scotland and the NIHR Local Clinical Research Networks.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6734

AB1030

FEBUXOSTAT VERSUS ALLOPURINOL STREAMLINED TRIAL (FAST): BASELINE CHARACTERISTICS OF THE RANDOMISED PATIENT POPULATION

I. Mackenzie¹, T. MacDonald¹, I. Ford², G. Nuki³, on behalf of the FAST steering committee. ¹MEMO Research, University of Dundee, Dundee; ²The Robertson Centre for Biostatistics, University of Glasgow, Glasgow; ³Centre for Genomic and Experimental Medicine, University of Edinburgh, Edinburgh, UK

Background: The Febuxostat versus Allopurinol Streamlined Trial (FAST) is a prospective, randomised, open-label, blinded endpoint trial comparing the cardiovascular safety of allopurinol and febuxostat in patients with symptomatic hyperuricaemia.¹ The trial includes patients aged over 60 years who are taking chronic allopurinol therapy at baseline and have at least one additional cardiovascular risk factor. After up-titration on allopurinol to reach EULAR urate targets, patients are randomised to febuxostat or allopurinol then followed up for events. Patient recruitment to the trial completed in late 2017 and follow-up is ongoing.

Objectives: To describe the baseline characteristics of the patients randomised into the FAST study.

Methods: The primary endpoint of the FAST study is the composite of non-fatal myocardial infarction, non-fatal stroke or cardiovascular death. The primary analysis is a non-inferiority analysis with a non-inferiority upper limit for the hazard ratio for the primary outcome of 1.3.

Results: 6142 patients from UK, Denmark and Sweden have been randomised into the FAST study. The mean age at randomisation was 71.0±6.4 (SD) years. 85.3% of participants are male. 57.3% are former smokers and 7.9% current smokers. Mean systolic blood pressure was 138±18 mmHg and mean diastolic blood pressure 75±12 mmHg. Mean body mass index was 31.1±5.2 kg/m². 10.7% of participants had a history of previous myocardial infarction, 5.0% a history of previous cerebrovascular accident and 4.8% a history of peripheral arterial disease. 22.5% had a history of diabetes mellitus and 4.6% a history of heart failure. 78.0% had a history of high blood pressure. 33.3% had a history of any cardiovascular disease (defined as history of myocardial infarction, cerebrovascular accident, transient ischaemic attack, acute coronary syndrome, coronary revascularisation, angina pectoris or heart failure). The mean baseline urate at study entry (screening) was 297±47 μmol/L. The mean allopurinol dose being taken at study entry (screening) was 225±106 mg daily. 2206 patients (35.9%) had at least one up-titration of allopurinol dose prior to randomisation.

Conclusions: This ongoing European trial will report on the cardiovascular safety of febuxostat versus allopurinol in patients with symptomatic hyperuricaemia.

REFERENCE:

- [1] MacDonald TM, Ford I, Nuki G, Mackenzie IS, et al. Protocol of the Febuxostat versus Allopurinol Streamlined Trial (FAST): a large, prospective, randomised, open, blinded-endpoint study comparing the cardiovascular safety of allopurinol and febuxostat in the management of symptomatic hyperuricaemia. *BMJ Open* 2014;4:e005354. doi:10.1136/bmjopen-2014-005354

Acknowledgements: The FAST study is funded by Menarini and sponsored by the University of Dundee.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6491

AB1031

ANALYSIS OF MECHANISM OF TRANSIENT INCREASE IN PLASMA URATE LEVELS INDUCED BY FRUCTOSE IN RATS

K. Ichida¹, M. Nagamura¹, R. Tanino¹, W. Yoshioka². ¹Department of Pathophysiology, Tokyo University of Pharmacy and Life Sciences; ²Department of Public Health and Environmental Medicine, The Jikei University School of Medicine, Tokyo, Japan

Background: Hyperuricemia induces gout and kidney stones and accelerates the progression of renal diseases. Hyperuricemia is a common multifactorial disorder having several environmental factors such as sex, diet, alcohol consumption, and obesity. The increasing prevalence of hyperuricemia in recent years is thought to be due to environmental factors, particularly diet. Based on the reported association between sugar-sweetened beverages and hyperuricemia in epidemiological studies, it has been hypothesised that fructose, the primary sweetener in sugar-sweetened beverages, directly increase plasma urate levels.

Objectives: The aim of this study was to investigate whether and how fructose induces an increase in plasma urate levels.