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.

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AB1029

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

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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.

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AB1030

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

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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.

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AB1031

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

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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.

Methods: Urate in plasma and urine were measured after fructose, glucose, or water was administered to Sprague-Dawley rats at doses of 2.5 or 7.5 g/kg at a time. Intestinal closed loops were made using approximately 10 cm of ileum. Phosphate buffered saline was injected into each intestinal loop. After 4 hours, urate levels in the loops were measured.

Results: Plasma urate level was significantly increased within 15–30 min by oral administration of fructose, without an increase in urinary and intestinal urate excretion, and a decreasing tendency of urate clearance was observed. These actions were evident at a dose of 7.5 g/kg body weight. The absence of an increase in urinary and intestinal urate excretion indicated that an increase in urate production did not result in the increase in plasma urate level. In the meantime, a decrease in urate clearance was suggested to cause the increase in plasma urate level.

Conclusions: The present study demonstrated that oral intake of fructose induces an increase in plasma urate level within a short time and that a decrease in renal urate clearance could mainly work for that.

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AB1032

HIGHER BODY FAT IS AN INDEPENDENT RISK FACTOR FOR METABOLIC SYNDROME IN GOUT

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Background: The development of gout is associated with obesity and metabolic syndrome (MS). Obesity is defined by body mass index (BMI). However, BMI has been challenged for the limitation of not distinguishing different comprising tissues of the body. Body composition (BC) has been frequently recommended to assess metabolic status and will eventually replace BMI as a more reliable measure.

Objectives: To investigate the characteristics of BC in gout patients and their significance with disease characteristics.

Methods: BC was assessed in 180 consecutive gout patients and 1,860 control subjects (white-collar employees in Zhangjiang InnPark of Shanghai) by bioelectric impedance analysis. Overfat was defined by body fat percentage (BF%) as $\geq 25\%$ for men and $\geq 35\%$ for women. Demographic and clinical data as well as comorbid diseases were collected simultaneously. For the significant differences in the proportion of gender and age between two groups, the age- and gender-matched control subjects were randomly selected with the ratio of 1:1 for further statistics.

Results: (1) Among 180 gout patients recruited, the mean age was 42.5 ± 15.5 years, mean serum uric acid (sUA) was 9.0 ± 2.4 mg/dl and 17.2% of patients presented tophi. The mean BMI was 25.4 ± 3.5 kg/m² with 44.4% overweight and 25.6% obesity. The mean BF was $26.2 \pm 6.6\%$ with 50.5% overfat. (2) Compared with control subjects, gout patients were characterised by higher BMI (25.4 ± 3.5 kg/m² vs. 24.3 ± 3.3 kg/m²), fat mass (19.3 ± 6.9 kg vs. 16.5 ± 6.2 kg), trunk fat mass (10.2 ± 5.4 kg vs. 8.4 ± 3.4 kg), BF ($26.2 \pm 6.6\%$ vs. $22.4 \pm 6.2\%$), proportion of overfat (50.5% vs. 27.2%), but lower lean mass (53.0 ± 7.7 kg vs. 55.6 ± 7.7 kg, all $p < 0.05$). (3) Compared with normal fat patients ($n = 89$), gout patients with overfat ($n = 91$) presented higher duration of gout, the count of affected joints, flare times in the past year, family history and presence of tophi (all $p < 0.05$, table 1). Overfat gout patients also exhibited higher BMI, more obesity, hyper-low density lipoproteinemia, MS and fatty liver (all $p < 0.05$). (4) There were 9 (17.3%) overfat gout patients in 53 normal weight patients who presented more hypercholesterolemia (55.6% vs. 13.3%), hyper-low density lipoproteinemia (55.6% vs. 17.8%) and fatty liver (77.8% vs. 35.6%) and less skeletal muscle mass index (SMMI, 8.3 ± 0.5 kg/m² vs. 9.7 ± 0.7 kg/m²) than those patients with normal fat and weight (all $p < 0.05$). Meanwhile, there were 44 (34.9%) gout patients with normal fat among 126 overweight and obesity patients who had less MS (40.9% vs. 63.4%) and more SMMI (11.1 ± 0.9 kg/m² vs. 10.6 ± 1.1 kg/m²) than overfat patients (both $p < 0.05$). (5) Overfat was a risk factor for MS [OR 3.4 (1.8, 6.4), $p < 0.001$] after adjusted by age and gender.

Abstract AB1032 – Table 1. Comparison of disease characteristics between gout patients in BF subgroups

Clinical characteristic	all gout patients (n=180)	over fat group (n=91)	normal fat group (n=89)	p
Male, n (%)	168 (93.3)	85 (93.4)	83 (93.3)	1.0
Age, years	42.5±15.5	42.8±15.5	42.3±15.6	0.804
Duration of gout, years	3.0 (1.0, 8.0)	5.0 (2.0, 9.0)	3.0 (1.0, 5.0)	0.005
Count of affected joints	3.0 (2.0, 6.0)	4.0 (2.0, 8.0)	2.0 (1.0, 4.0)	<0.001
Frequency of flare in the last year	4.0 (2.0, 10.0)	5.0 (2.0, 12.0)	3.0 (2.0, 6.0)	0.002
Tophi, n (%)	31 (17.2)	21 (23.1)	10 (11.2)	0.035
Family history, n (%)	63 (35.0)	39 (42.9)	24 (27.0)	0.025
Serum uric acid, mg/dl	9.0±2.4	9.2±2.2	9.0±2.2	0.616
Hypertension, n (%)	58 (32.2)	33 (36.3)	25 (28.1)	0.267
Diabetes mellitus, n (%)	26 (14.4)	17 (18.7)	9 (10.1)	0.137
Dyslipidemia, n (%)	117 (65.0)	63 (69.2)	54 (60.7)	0.274
Hypercholesterolemia, n (%)	45 (25.0)	28 (30.8)	17 (19.1)	0.086
Hyper-low density lipoproteinemia, n (%)	53 (29.4)	34 (37.4)	19 (21.3)	0.022
BMI, kg/m ²	25.4±3.5	27.2±3.4	23.6±2.4	<0.001
Obesity, n (%)	46 (25.6)	42 (46.2)	4 (4.5)	<0.001
Body fat, %	26.2±6.6	31.1±4.3	21.1±4.3	<0.001
SMMI, kg/m ²	10.4±1.2	10.4±1.2	10.4±1.1	0.981
Metabolic syndrome, n (%)	82 (45.6)	54 (59.3)	28 (31.5)	<0.001
Fatty liver, n (%)	99 (55.0)	60 (65.9)	39 (43.8)	0.004

BMI: body mass index; SMMI: skeletal muscle mass index

Conclusions: Our results indicated higher body fat in gout patients which is an independent risk factor for MS.

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AB1033

COMORBIDITIES AND METABOLISM INDEXES IN PATIENTS WITH HUA COMPARING WITH NORMAL URIC ACID: A DATA FROM 33319 PATIENTS BETWEEN 2014 AND 2015

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Objectives: To investigate and compare the differences in Comorbidities and metabolism indexes between peoples with high and normal uric acid.

Methods: All the outpatients were enrolled in this cross-sectional study from September 2014 to September 2015 in Peking University People's Hospital. The patients were divided into high uric acid (HUA) and normal uric acid according to the international definition of HUA. The distribution characteristics of UA level and correlations between UA level and prevalence rate of comorbidities and metabolism indexes, including glutamic-pyruvic transaminase, glutamic-oxalacetic transaminase, serum total cholesterol (TC), triglyceride (TG), low density lipoprotein cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C), blood glucose, creatinine (CRE), carbonyldiarnide, estimated glomerular filtration rate (eGFR) were analysed.

Results: (1) Among 33 319 outpatients, with an average age of 56.4, 44.4% were men with a higher uric acid level than women (368 ± 113.1 umol/ vs 300 ± 95.5 umol/L, $p < 0.001$). In all patients, 25.6% had HUA and the sex ratio was about 1:1, while 50–59 age were most common in men and women with 60–69 age were the most. (2) Both the levels of uric acid in males and females had a significant relationship with the metabolism indexes above-mentioned. However, the levels of uric acid in females had a positive correlation with age and blood glucose, the levels of uric acid in males were negative correlated with age and blood glucose. And the uric acid levels in females displayed a higher relationship with carbonyldiarnide and eGFR. (3) The prevalences of common chronic metabolic disorders, were significantly increased in HUA patients than those with normal uric acid, such as hypertension, hypertensive renal disease, hyperlipidemia, diabetes mellitus (DM), diabetic nephropathy (DN), chronic renal failure. And male patients with HUA had higher prevalence of gout than females (10.76% VS 2.58%, $p < 0.001$). In patients with normal uric acid, the prevalence of DM and DN in males was higher than females. In contrast, the prevalence of DM and DN in males was lower than females in the patients with HUA (25.7% VS 57.1%, $p < 0.05$; 6.52% VS 41.76%, $p < 0.001$).

Conclusions: The prevalence of HUA in females was showing an increasing trend and the uric acid level in females had more influence in blood glucose and renal function than males.

Disclosure of Interest: None declared

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