except for transient and reversible serum creatinine elevations in the LESU groups. (table 1).

Abstract SAT0374 – Table 1

Variable	Group receiving Diuretics			Group not receiving Diuretics		
	PBO	LESU	LESU	PBO	LESU	LESU
	+ALLO	200 mg	400 mg	+ALLO	200 mg	400 mg
	[n=64]		+ALLO	[n=343]	+ALLO	+ALLO
		[n=79]	[n=78]		[n=326]	[n=323]
Efficacy , proportion of PT achieving [number (%)]:						
sUA<6.0 mg/dL at m-6	19 (29.7)	48 (60.8)*	57 (73.1)*	85 (24.8)	174 (53.4)*	195 (60.4)*
sUA<6.0 mg/dL at m-12	17 (26.6)	48 (60.8)*	48 (61.5)*	88 (25.7)	155 (47.5)*	163 (50.5)*
Safety , proportion of PT reporting [number (%)]:						
Any TEAEs	45 (70.3)	62 (78.5)	65 (83.3)	239 (69.7)	237 (72.7)	252 (78.0)
←Serum creatinine by ≥1.5	2 (3.1)	2 (2.5)	11 (14.1)	5 (1.5)	17 (5.2)	47 (14.6)

† p=0.0003, *p<0.0001 versus PBO+ALLO (Cochran-Mantel Haenszel test)

Conclusions: LESU +ALLO doubled the number of PT reaching sUA target of <6.0 mg/dL at m-6 and sustained at m-12, irrespective of TTLD use. Adjunctive therapy with LESU +ALLO is safe and efficacious even in PT subgroups using concomitant TTLD.

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SAT0375 IMPACT OF FEBUXOSTAT ON RENAL FUNCTION AMONG GOUT PATIENTS WITH DIFFERENT RENAL FUNCTION

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Background: Febuxostat is a new xanthine oxidase inhibitor which is effective in the treatment of hyperuricemia. Its use in people with different levels of renal function has not been thoroughly assessed.

Objectives: To assess the risk of renal function deterioration in gout patients using febuxostat and compare it with patients using allopurinol and other uricosuric agents.

Methods: We included 5882 adult patients with gout diagnosed between 2012 and 2015. We divided patients into three groups by usage of urate-lowering drugs used (allopurinol, febuxostat and uricosuric agents including benzbromarone, probenecid and sulfinpyrazone). The primary outcome was a progress of one chronic kidney disease (CKD) stage. The index date was the first date of urate-lowering drugs used. We follow each patient to the date of event, death, switch to other drug or the end of the study. The Cox proportional hazards model was used to estimate the adjusted hazard ratios (HRs), adjusted for age, sex, baseline eGFR, baseline serum uric acid, comorbidity, co-medication.

Results: The incident rate of the renal function deterioration was 2.37 (95% CI, 1.75–3.14) per 1000 person-days in allopurinol users, 1.54 (95% CI, 1.30–1.81) per 1000 person-days in febuxostat users and 1.43 (95% CI, 1.32–1.56) per 1000 person-days in uricosuric agent users. The HRs of progression of CKD stage in febuxostat and uricosuric agent users were 0.98 (95% CI, 0.70–1.38) and 0.80 (95% CI, 0.59–1.09) compared with allopurinol. Among febuxostat users, the HRs were 1.80 (95% CI, 0.85–3.98) in patients with an estimated glomerular filtration rate (eGFR) ≥90 ml/min/1.73 m², 1.06 (95% CI, 0.56–2.03) for patients with an

eGFR 60–89 ml/min/1.73 m², 0.78 (95% CI, 0.45–1.42) for patients with an eGFR 30–59 ml/min/1.73 m² and 0.73 (95% CI, 0.22–3.52) for patients with an eGFR 15–29 ml/min/1.73 m². Among uricosuric agent users, the HRs were 0.94 (95% CI, 0.52–1.88) in patients with an eGFR ≥90 ml/min/1.73 m², 0.88 (95% CI, 0.55–1.50) in patients with an eGFR 60–89 ml/min/1.73 m², 0.71 (95% CI, 0.41–1.28) in patients with an eGFR 30–59 ml/min/1.73 m² and 0.71 (95% CI, 0.19–3.62) in patients with an eGFR 15–29 ml/min/1.73 m².

Conclusions: Renal function deterioration is not uncommon after initiation of urate-lowering treatment and febuxostat has a similar renal safety profile as allopurinol and uricosuric agents.

Disclosure of Interest: None declared

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SAT0376 THE INCIDENCE, PREVALENCE AND USE OF URATE LOWERING AGENTS IN HONG KONG: A POPULATION STUDY FROM 2006 TO 2016

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Background: The prevalence of gout has increased significantly over the past decade, especially in developed countries and Oceanic populations. The estimated prevalence of gout in the US, Canada and European countries was 3%. Asian countries, except Taiwan, were considered to have a lower prevalence of gout due to differences in ethnicity and lifestyle.

Since there are no recent epidemiological data on gout in Hong Kong, we conducted this population study to determine the incidence and prevalence of gout in Hong Kong as well as the utilisation of urate lowering agents among patients with gout.

Objectives: To determine the incidence, prevalence of gout and use of urate lowering agents in Hong Kong

Methods: Data were retrieved from the Clinical Data Analysis and Reporting System (CDARS) of the Hospital Authority. The Hospital Authority is the only public healthcare provider in Hong Kong. Since treatment is heavily subsidised and available to all residents, it covers more than 90% of all medical care for the general population in Hong Kong.

Clinical data including demographic, diagnosis of gout, serum urate levels and prescriptions of urate lowering agents were retrieved from CDARS from 2006 to 2016. For inclusion, subjects must have attended any out-patient clinics or accident and emergency department (with or without hospitalisation) in 2005. Subjects with a diagnosis of gout who died before 2006 were excluded. All subjects were followed until the cut-off date or death.

Gout was defined as the physician diagnosis and coding in CDARS. The serum urate levels achieved after prescribing urate lowering agents were the means of all serum urate levels 6 months after prescriptions.

Results were analysed by R statistics version 3.3.3. with package 'prevalence' version 0.4.0.

Results: 2741862 participants were included in the analysis. Both the incidence and prevalence of gout in Hong Kong have increased over the past 10 years. In 2016, the crude and age-standardised prevalence of gout were 2.92% and 1.44%, respectively. 6.26% of the general population aged 80 years or older was diagnosed to have gout.

Despite the increase in incidence and prevalence of gout in Hong Kong, the utilisation of urate lowering agents remained low. In 2016, only 25.55% of patients with gout were prescribed urate lowering agents. More importantly, only 35.8% of those could achieve the therapeutic target of serum urate level <6 mg/dL.

Conclusions: Population ageing has led to increases in incidence and prevalence of gout in Hong Kong. In 2016, the crude prevalence of gout in Hong Kong was 2.92%, which is similar to figures reported in western countries. Despite an

increase in prevalence of gout, the utilisation of urate lowering agents remained low. Only 1 in 4 patients with gout were prescribed urate lowering agents.

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SAT0377

THE BURDEN OF MONOSODIUM URATE CRYSTALS ASSESSED BY DUAL-ENERGY CT AND ULTRASONOGRAPHY IS NOT CORRELATED TO CARDIOVASCULAR RISK

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Background: Gout is associated with higher cardiovascular risk and increases with disease severity. It is not clear if the monosodium urate (MSU) crystal burden is associated with traditional cardiovascular risk factors.

Objectives: The objective of this study was to explore the relationship between the extent of MSU deposition assessed with ultrasonography (US) and dual-energy CT (DECT) and cardiovascular risk.

Methods: Gout patients naive of urate lowering therapy were included in this cross-sectional study to undergo DECT scans for the assessment of total MSU volume deposition of the knees and feet, and US to evaluate the number of joints with the double contour (DC) sign among the femoro-patellar, talo-crural and first metatarsophalangeal joints. Participants were screened for traditional cardiovascular risk factors and levels of the ACC/AHA 10 year-risk for heart disease or stroke was calculated. The primary endpoint was the Spearman correlation coefficient ρ between DECT MSU volume and cardiovascular risk.

Results: A total of 50 patients predominantly male (46/50) aged 62.6 years (± 14.1) were included. Participants had gout duration of 9.5 years (± 11.8), had experienced 4.1 flares (± 6.3) over the past year, had serum urate (SU) levels of 8.1 mg/dL (± 2.3), and 35/50 had at least one US tophus of 1.5 cm³ (± 1.8). The volume of MSU deposits with DECT was 3.9 cm³ (± 11.2) for the feet and 2 cm³ (± 4.4) for the knees. Overall, 28 patients presented with the metabolic syndrome. Correlations between DECT volumes of MSU deposits of the knees, feet, and knees+feet were poor with ρ respectively of 0.23, 0.03 and 0.21. The was no correlation between the number of joints with the DC sign and cardiovascular risk (ρ of 0) and the correlation was poor with SU levels ($\rho=0.09$). Patients with the metabolic syndrome had similar DECT volume of MSU deposits than those without ($p=0.29$).

Conclusions: This study suggests that the association of gout with traditional cardiovascular risk factors is not related to the extent of the monosodium urate crystal burden.

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SAT0378

THE TREND OF TREG AND TH17 CELLS CHANGES IN P2X7R-REGULATED ACUTE GOUTY ARTHRITIS MODEL RATS

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Background: ATP may be the second causative signal for the onset of gout, which acts on P2 $\times$ 7R to regulate the development of acute gouty arthritis.¹ Both regulatory T cells and Th17 cells are important in the development and progression of inflammatory diseases.²

Objectives: To investigate the effect of P2 $\times$ 7R on Treg and Th17 cells in acute gouty arthritis model of rats and its role in acute gouty arthritis.

Methods: Eighty male SD rats were randomly divided into three groups: After establishment of acute gouty arthritis model, rats were given P2 $\times$ 7R agonist ATP, P2 $\times$ 7R inhibitor BBG and PBS, respectively. The rats were sacrificed at 6 hour, 12 hour, 24 hour, 48 hour and 72 hour after treatment. The spleens of the rats were grinded and the expression of Treg and Th17 cells were detected by flow cytometry. Comparison the levels and the ratio of Treg and Th17 cells at the different time points.

Results: (1) The expression levels of Treg and Th17 in the spleen: After treatment at 12 hour, The expression levels of Treg and Th17 in the ATP group were significantly higher than that in the BBG and control groups ($p=0.001$, 0.021 ; $p=0.01$, 0.025); The expression levels of Treg and Th17 in control group were higher than that in BBG group ($p=0.021$, 0.044); There were no significant differences in the three groups at 72 hour after treatment ($p=0.052$, 0.116). (2) The expression trend of Treg and Th17 in different time points: the level of Treg was increased at 6 hour, but decreased gradually at 12 h, 24 hour and then increased at 48 hour again; The level of Th17 was increased at 6 hour, 12 h and 24 hour, but decreased gradually at 48 hour, 72 hour. (3) The ratio of Treg/Th17 gradually decreased in the first three time points, increased at 48 hour and 72 hour in three groups. The ratio of Treg/Th17 in ATP group was lower than that in BBG group and control group at 12 hour, with significant difference ($p<0.05$). But at other four time points, the ratios were no significant differences among the three groups.

Conclusions: Activation of P2 $\times$ 7R decreased the ratio of Treg/Th17 in acute gouty arthritis rat model that showed an acute change trend along with the time, suggesting that P2 $\times$ 7R-regulated the ratio of Treg/Th17 cells affected acute gouty arthritis.

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SAT0379

VACUUM-ASSISTED CLOSURE VERSUS CONVENTIONAL WOUND CARE IN THE MANAGEMENT OF CHRONIC ULCERS IN PATIENTS WITH TOPHACEOUS GOUT: A PROSPECTIVE ANALYSIS

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Background: With the rising epidemic of gout, an increasing number of patients suffer from chronic ulcers associated with tophaceous gout in China, causing poor quality of life and disability. Such ulcers are very difficult conditions to deal with. Vacuum-assisted closure (VAC) has been proved to be effective in treating a variety kinds of wounds such as diabetic foot ulcers. However, its use in chronic ulcers associated with tophaceous gout has been seldom reported.

Objectives: In the present study, we evaluated the use of VAC in the treatment of chronic ulcers associated with tophaceous gout in comparison to conventional wound care (CWC).

Methods: We performed a 12 week prospective study that included 13 patients treated with VAC and 14 patients treated with CWC. We collected the clinical outcomes of these patients and data from a satisfaction survey. Chronic ulcers were treated until wound closure, or until the end of 12 weeks. Study will discontinue when the ulcer worsens or remains unchanged by the end of week 4.

Results: Granulation tissue appeared in 12 (92.31%) patients by the end of week 2 in the VAC group, while it appeared in 6 (42.86%) patients by that time in the CWC group ($p=0.013$). 100% granulation was achieved in 11 (84.62%) patients by the end of week 8 in the VAC group as compared to 5 (35.71%) patients by that time in the CWC group ($p=0.018$). By the end of week 12, decreasing in wound size was achieved in 12 (92.31%) patients in the VAC group, while it was achieved in 10 (71.43%) patients in the CWC group ($p=0.326$). Among them, wound closure was achieved in 9 (69.23%) patients in the VAC group, while it was achieved in 3 (21.43%) patients in the CWC group ($p=0.021$). None developed local infection in both groups during the treatment. More patients in the VAC group were satisfied with treatment as compared to the CWC group.