Abstract SAT0369 – Table 1. Comparative rates of cardiovascular diseases, risk factors and SCORE values in patients with CPPD, gout and OA

Parameter	CPPD (n=232)	Gout (n=196)	OA (n=60)
hsCRP, mg/l	16.1±8.43*	34.3±24.8***	4.2±2.18
UA, µmol/l	350.8 ±115.8	504.0±136.8**	313.0 ±71.4
Glucose, mmol/l	5.3±1.2	6.1±1.21	4.3±1.2
Cholesterol, mmol/l	6.1±1.17	5.44±1.19	5.1±1.14
AH, n (%)	145 (62.5)	144 (73.4)	41 (68.3)
ICD, n (%)	64 (27.6)	38 (19.3)	21 (35.0)
CHF, n (%)	27 (11.6)*	16 (8.1)*	3 (5.0)
MI, n (%)	9 (3.8)*	13 (8.1)*	0
Stroke, n (%)	2 (0.8)	13 (8.1)	5 (8.3)
Thrombosis, n (%)	9 (3.8)	2 (1.0)	3 (5.0)
CKD≥2 stage, n (%)	17 (7.3)*	28 (14.3)*	0
DM 2, n (%)	24 (10.3)	36 (18.3)	12 (20.0)
SCORE, (%)	5.37±4.29	5.17±4.54	4.58±3.99
High and very high SCORE values (>5%), n (%)	111 (47.8)*	96 (48.9)*	20 (33.3)

*p<0.05 between CPPD and OA; gout and OA, **p<0.05 between CPPD and gout

Conclusions: Cardiovascular risk in CPPD pts may be underestimated and suggests the need for further research.**Disclosure of Interest:** None declared

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SAT0370

ASSOCIATION OF RENAL DYSFUNCTION AND DEVELOPMENT OF TOPHI IN SUBJECTS WITH CHRONIC REFRACTORY GOUT AND RESPONSE TO TREATMENT WITH PEGLOTICASEN.L. Edwards¹, J. Singh², O. Troum³, A. Yeo⁴, P. Lipsky⁵. ¹University of Florida, Gainesville; ²University of Alabama at Birmingham, Birmingham; ³University of Southern California, Los Angeles; ⁴Horizon Pharma, Lake Forest; ⁵AMPEL BioSolutions LLC, Charlottesville, USA**Background:** Many, but not all patients with chronic refractory gout develop tophi; and the factors that govern tophus formation are not known. To address this question, we assessed subjects enrolled in the pivotal trials of pegloticase, a mammalian recombinant uricase conjugated to polyethylene glycol that is approved for the treatment of gout refractory to conventional oral urate lowering therapy.**Objectives:** To determine the factors associated with the presence of tophi in patients with chronic refractory gout.**Methods:** This analysis used results from two pivotal randomised controlled trials (RCTs)^{1,2} to assess the clinical characteristics of subjects with chronic refractory gout and effects of treatment with pegloticase. Overall, 73% of the subjects in these trials had clinically apparent tophi at baseline and 27% did not. Demographic features of these subjects were assessed and renal function was evaluated by measurement of estimated glomerular filtration rate (eGFR). Subjects were treated with pegloticase, 8 mg every other week (q2w) in a 6 month RCT and then followed for up to 3 years in an open label extension (OLE).**Results:** The analysis included subjects with chronic refractory gout, 154 with tophi at baseline and 57 without tophi. Chronic refractory gout subjects in the two groups were generally similar at baseline, but with a difference in disease duration: 16.3 years for tophaceous subjects vs 11.7 years for subjects without tophi (p=0.007). There were no significant differences in most comorbidities for the two groups. However, eGFR was significantly lower in the subjects with tophi (85.2 mL/min) vs those without tophi (116.5 mL/min) (p=0.001). The frequency of tophi increased in subjects with lower eGFR values (Table). Six months of treatment with pegloticase (8 mg q2w) in a subgroup of subjects resulted in complete or partial resolution of at least one tophus with no increase in others in 74% of subjects, but had no significant effect on renal function measured by eGFR (78.8 mL/min vs 84.2 mL/min, n=51, p=0.7). Continued treatment with pegloticase in the OLE further decreased the burden of tophi, but had no significant effect on renal function measured by eGFR (75.7 mL/min, p=0.6).**Abstract SAT0370 – Table 1**

Baseline eGFR (mL/min)	Non-tophaceous (n=57)	Tophaceous (n=154)
≥90 (n=97)	33 (34.0%)	64 (66.0%)
60 to <90 (n=54)	16 (29.6%)	38 (70.4%)
30 to <60 (n=43)	5 (11.6%)	38 (88.4%)
15 to <30 (n=17)	3 (17.6%)	14 (82.4%)

p=0.0094, Cochran-Mantel-Haenszel chi square test

Conclusions: These results indicate that chronic refractory gout patients may present with or without clinically apparent tophi. A significant association was

noted between the presence of renal dysfunction measured by eGFR and the frequency with which chronic refractory gout patients manifested tophi. Pegloticase treatment markedly decreased the tophus burden, but in this analysis did not improve renal function. These results suggest that renal failure may predispose patients to tophus formation, whereas the resolution of tophi in this analysis did not appear to improve renal function.

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- [2] Baraf HS, Becker MA, Gutierrez-Urena SR, et al. Arthritis Res Ther 2013;15:R137.

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SAT0371

FACTORS ASSOCIATED WITH ALLOPURINOL ADHERENCE AND TREATMENT OUTCOME AMONG GOUT PATIENTS

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Background: A serum uric acid (SUA) level of <6.0 mg/dL has been widely accepted as the therapeutic target for patients with gout. Recent studies implicate allopurinol nonadherence as a major barrier to achieving this target. However, factors that could affect this medication adherence are not clearly identified.**Objectives:** To identify factors associated with allopurinol adherence and SUA goal attainment in gout patients.**Methods:** This study identified patients aged 18 years or older with a diagnosis of gout by 1977 ARA classification criteria for gout, received at least 1 month of allopurinol, and attended out-patient clinics of Phramongkutklao hospital from Jul 2016–Sep 2017. Allopurinol adherence was defined as Medication Taking Behaviour for Thai patient (MTB-Thai) scores>21 points. Patient characteristics, comorbidities, concomitant medications, prescriber specialty, number of gout attack and SUA were examined. Multivariate logistic regression was used to examine factors associated with allopurinol adherence and SUA target, defined as SUA <6.0 mg/dL.**Results:** A total of 226 patients with gout was included. Approximately half of patients (43.4%) were adherent, whereas only one-third of them achieved SUA target (29.2%). Factors associated with allopurinol adherence in the multivariate analysis included disease duration (>1 year) (odds ratio [OR] 0.1, 95% confident interval [CI]: 0.05–0.21), history of gout attack (>2 times/year) (OR 0.14, 95% CI: 0.08–0.27), and prescriber specialty (rheumatologist) (OR 2.64, 95% CI: 1.28–5.43). Factors associated achieved SUA goal in the multivariable analysis included history of gout attack (>2 times/year) (OR 0.21, 95% CI: 0.1–0.42), prescriber specialty (rheumatologist) (OR 2.01, 95% CI: 1.31–4.13), allopurinol dose escalation (OR 2.11, 95% CI: 1.17–3.79), current allopurinol dosage (>100 mg/day) (OR 2.02, 95% CI: 1.11–3.65), and allopurinol adherence (OR 13.6, 95% CI: 6.52–28.39).**Conclusions:** Among patients with gout receiving allopurinol in our study, 70.8% did not reach the SUA goal and 56.6% of patients were non-adherent. Allopurinol adherence was strongly associated with SUA goal attainment. The only modifiable factor associated with allopurinol adherence was prescriber specialty, whereas, modifiable factors associated with SUA goal attainment were prescriber specialty, allopurinol dose escalation, and current allopurinol dosage. Appropriate dose escalation and rheumatology referral could be important factors to consider in efforts aimed at optimising gout treatment outcomes.**Disclosure of Interest:** None declared

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