deposition outside 'classic' extremities has been scarcely investigated yet may be a potential indicator of tophus burden and impending clinical deterioration.

Objectives: 1. Anatomical mapping of gout deposition in the abdomen (vessels, solid organs and lumbosacral spine).
2. Determine correlation between uric acid level and vascular, solid organ and spinal MSU deposition.

Methods: Retrospective analysis of all DECT abdomen and pelvis scans done in our institution (from January 2007 to July 2018). The inclusion criteria were: males > 50 years with high or normal uric acid level. All cases were then assessed by 2 radiologists with extensive experience in

DECT for MSU deposits. Validated dual-energy gout analysis software was used.

Results: 235 DECT cases met the inclusion criteria. Medical Record document review showed no diagnosis of gout in any patient in the sample. By the time this abstract was submitted, 166 cases were reviewed. The analyzed sample (n = 166), showed MSU deposits (1 or more deposits) in the abdominal aorta (n = 48/166; 28.92%), abdominal vessels other than aorta (n = 57/166; 34.34%) and lumbosacral spine (n = 15/166; 9.04%). No deposits were detected in the solid abdominal organs (n = 0/166; 0%). There was a statistically significant positive correlation between uric acid level and spinal deposits (r= 0.22, P= 0.004). No significant correlation between uric acid level and aortic (P= 0.86) or vascular deposits (P= 0.19). Regression analysis showed uric acid levels can't significantly predict the presence of aortic, vascular or spinal deposits.

Conclusion: Computed tomographic mapping of MSU deposits was positive in the abdominal aorta, other abdominal vessels and lumbosacral spine in patients with normal or high uric acid levels who were asymptomatic for gout. Uric acid level was positively correlated with spinal gout, but not with aortic or vascular gout. Interestingly, uric acid levels can't significantly predict the presence of aortic, vascular or spinal gout. Larger sample size, wider variation in uric acid levels are still needed.

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Table 1. correlation Analysis.

	Uric Acid Levels	
	Correlation coefficient	P value
Aortic Deposits	-0.013	0.86
Vascular Deposits	0.101	0.198
Spine	0.223	0.004

Table 2. Regression analysis

	Uric Acid Levels	
	Regression coefficient	P value
Aortic Deposits	0.00	0.86
Vascular Deposits	0.001	0.226
Spine	0.003	0.053

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SAT0407 **GOUT PATIENTS ARE GETTING MORE POSITIVE ABOUT THEIR MEDICINES WHILE TREATED TO TARGET: DATA FROM THE NOR-GOUT STUDY**

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Background: Low adherence to medication is a concern in gout where urate lowering therapy (ULT) is indicated to prevent disease severity and

comorbidities. Not believing in medication may impact on the success of achieving these treatment goals.

Objectives: To study which factors were associated to and predictive of beliefs about medicines during one year in patients with a recent gout attack and a need for ULT.

Methods: Baseline data from a prospective observational study were used in patients with crystal-proven gout after a recent gout flare and insufficiently treated serum urate (sUA) level ($>360 \mu\text{mol/L}$ / $>6 \text{ mg/dl}$). In these patients a treat-to-target approach was planned to meet the treatment target (sUA $<360 \mu\text{mol/L}$, or $<300 \mu\text{mol/L}$ if clinical tophi). Assessments included demographic and clinical data, baseline serum urate levels, medication, comorbidities, physical function (HAQ), and SF-36 mental (MCS) and physical component summary scores.

The Beliefs in Medicines Questionnaire (BMQ)(1) queries patient beliefs about medicines on four subscales (necessity and concerns specific for the patient, generally on overuse and harm). Respondents indicated their degree of agreement with each individual statement about medicines on a 5-point Likert scale, (1=strongly disagree to 5=strongly agree). Scores within the four subscales were summed (ranges 5-25 for necessity and concern, 4-20 for overuse and harm). Calculation of the difference between necessity and concern shows the relative importance of patients' view on taking medication, and was grouped as high and low relative to the median.

Using multivariate analysis with logistic regression, baseline variables were explored as predictors of high beliefs in the relative importance of medication after 12 months.

Results: 202 patients were included at baseline, 94.1% men, 90.3% Caucasian, mean (SD) age 56.6 (14.2) years, disease duration 8.0 (7.7) years. Mean sUA level was 494 (SD 86.8) $\mu\text{mol/L}$ at baseline, body mass index 28.9 (4.6) kg/m^2 , and physical function (HAQ) 0.36 (0.57). 18.8% (n=28) had tophi, and 30.4% (n=55) were previous users of allopurinol.

During the first year the beliefs in necessity of medication and the perceived importance of medication increased, while the concerns decreased (Table).

Table: Beliefs in Medicines questionnaire (BMQ) subscales. * $p<0.05$, ** $p<0.01$ vs. baseline

Month (n)	0 (195)	3 (158)	6 (144)	12 (126)
Necessity (SD)	17.1 (4.5)	18.2 (3.4)*	18.4 (3.4)**	18.5 (3.3)**
Concern (SD)	13.7 (4.8)	13.3 (4.5)	13.3 (4.6)*	13.1 (4.6)**
Nec – Conc (SD)	3.4 (6.2)	4.9 (5.4)*	5.1 (5.5)**	5.4 (5.5)**
Overuse (SD)	10.6 (2.8)	10.8 (2.5)	10.6 (2.8)	10.6 (2.7)
Harmful (SD)	9.4 (2.4)	9.5 (2.5)	9.6 (2.5)	9.2 (2.7)

Bivariate comparisons studying demographic, medication and clinical variables did not show consistent cross-sectional associations with beliefs in the importance of medication. However, after 12 months, bivariate comparisons revealed statistically significant differences in mental health (SF36 MCS), physical function (HAQ) and self-efficacy for symptom control.

In logistic regression analyses, adjusting for age, gender, BMI and comorbidities, prediction of high beliefs in the relative importance of medication after 12 months were independently associated with baseline self-efficacy for symptom control (OR 1.04 per unit, 95% CI 1.01-1.06).

Conclusion: During one year of treat-to-target strategy in patients with gout, perceived necessity of medication and higher importance of medication increases. Self-efficacy for symptom control at baseline was an independent predictor of high beliefs in importance of medication after 12 months. These findings support that patients increase their perception of the necessity of beliefs in medication during a treat-to-target approach with ULT.

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SAT0408

BODY FAT MEDIATES THE CORRELATION BETWEEN FRUCTOSE-CONTAINING BEVERAGES CONSUMPTION AND SERUM URIC ACID IN MALE GOUT PATIENTS

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Background: Fructose-containing beverages (FCB) consumption has been recognized as a promoter of hyperuricemia and gout in recent years. FCB consumption also contributes to the development of obesity which is an important risk factor of gout. However, data about the associations among FCB consumption, obesity and the level of serum uric acid (sUA) is limited.

Objectives: To investigate the associations among FCB consumption, obesity and sUA level in gout patients.

Methods: Consecutive gout patients who fulfilled the 2016 ACR/EULAR classification criteria were recruited. Demographic information, clinical characteristics and comorbidities of gout were collected. A 10-items food frequency questionnaire was developed which included alcohol, red meat, animal offal, seafood, hotpot, slow-cooking soup, FCB, tea, coffee and milk/milk products. Patients were asked to report the average consumption frequency over the one year prior to the first gout attack. Body composition was assessed by bioelectric impedance analysis and overfat was defined by body fat percentage (BF%) as $\geq 25\%$ for men and $\geq 35\%$ for women.

Results: 1) Among 331 recruited gout patients, 96.1% were male, so only male patients were further analyzed. The median age of male patients was 37.5 (30, 49) years and median sUA was 9.5 (7.8, 10.5) mg/dl with 18.9% presented tophi. The mean BF% was $25.6 \pm 6.2\%$ and 54.7% male patients were overfat. The prevalence of hypertension, diabetes, dyslipidemia, metabolic syndrome and fatty liver were 34.6%, 8.5%, 62.9%, 44.3% and 46.9% respectively. 2) There were no significant difference of food intake frequency between overfat patients and normal fat patients. Spearman correlation analysis results showed that FCB consumption was positively correlated with BF% ($r=0.176$, $P=0.002$), while milk/milk products consumption was negatively correlated with BF% ($r=-0.117$, $P=0.038$). After adjusted by age, duration, family history, eGFR, hypertension, diabetes mellitus, dyslipidemia, metabolic syndrome, fatty liver and the other nine dietary factors, multivariable linear regression showed that FCB consumption was positively correlated with BF% (compared with $<1 \text{ time/w}$, 3-4 times/w: coefficient $\beta=2.4619$, 95%CI 0.3580~4.5657, $P=0.022$; 4 times/w: coefficient $\beta=2.6696$, 95%CI 0.8266~4.5726, $P=0.0049$), and BF% was positively correlated with sUA (coefficient $\beta=0.0784$, 95%CI 0.0328~0.1239, $P<0.001$). However, FCB consumption was not correlated with sUA after adjusted by above confounders and BF% ($P=0.079$). 3) Further mediation analysis were performed to evaluate whether BF% mediated the correlation between FCB consumption and sUA. After adjusted by the confounding factors mentioned above, the total effect of FCB consumption on sUA was significant (compared with $<1 \text{ time/w}$, $>4 \text{ times/w}$: coefficient $\beta=0.8813$, 95%CI 0.1457~1.6169, $P=0.019$). BF% produced indirect effect on the correlation between FCB consumption and sUA (compared with $<1 \text{ time/w}$, $>4 \text{ times/w}$: indirect effect coefficient $\beta=0.2115$, 95%CI 0.0453~0.4032).