Abstract FRI0228 – Table 2. Quartiles of sUA and age as predictors for presence of CAC (>0 CACs score) in male and female in multivariate logistic regression analyses adjusted for age, smoking, BMI, DM, DL, HT, hsCRP, EDU and PA.

	Male			Female	
	Odds ratio, multivariate*, (CI)	p-value		Odds ratio, multivariate*, (CI)	p-value
sUA, $\mu\text{mol/L}$			sUA, $\mu\text{mol/L}$		
31-305, Ref			143-229, Ref		
306-350	2.1 (1.2-3.7)	0.01	230-262	0.9 (0.5-1.7)	0.7
351-404	1.8 (1-3.3)	0.04	263-305	1 (0.5-2)	0.9
405-665	2 (1-3.8)	0.04	306-702	1.2 (0.6-2.3)	0.6

Conclusions: Higher levels of SU is associated with presence of CACs in men but not with CIMT. This could suggest that SU is an innocent bystander that covariates with many, but not all, CVRfs. However, it could also imply biological differences in the effect of SU on calcification of coronary arteries compared to carotid intima thickening. Furthermore, SU may exert different effects depending upon biological age and degree of CVD development.

REFERENCE:

- [1] Agatston AS, Janowitz WR, Hildner FJ, Zusmer NR, Viamonte M Jr., Detrano R. Quantification of coronary artery calcium using ultrafast computed tomography. *J Am Coll Cardiol* 1990;15(4):827–832.

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FRI0229 THE VALIDITY OF THE OMERACT ULTRASOUND DEFINITIONS OF GOUT ELEMENTARY LESIONS IN THE DIAGNOSIS OF GOUT

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Objectives: The aim was to evaluate ultrasound (US) as a diagnostic tool for gout using the OMERACT US Working Group's 2015 US definitions for elementary lesions in gout using a) positive urate crystal microscopy or b) clinical diagnosis of gout blinded to the US assessment as gold standard for determining the sensitivity and specificity of each elementary lesion.

Methods: US examination (28 joints, 26 tendons) were performed in patients with clinically suspected gout. Joints were evaluated for the four OMERACT elementary lesions of gout (Double contour (DC), Tophus, Aggregates and Erosions) and tendons for aggregates and tophus. The lesions were registered as either present or absent for each patient. The US assessment was compared to 2 different gold standard references: 1) presence/absence of monosodium-urate (MSU) crystals by joint fluid microscopy and 2) the final clinical diagnosis based on the clinical assessment by a rheumatologist, blinded to US findings but not microscopy findings (table 1).

Results: 51 patients (44 males, 7 female), mean age of 62(30 – 89) years were included. 34 of these had a positive microscopy for MSU crystals whereas 15 patients had a negative microscopy and in 2 patients joint aspiration was not possible. Of the patients without positive microscopy 3 were clinically diagnosed as having gout by a US blinded assessor whereas 14 were diagnosed with other diseases.

DC, tophus and aggregates were found to be statistically significantly more frequent in both patients with positive MSU microscopy and in patients with clinically diagnosed gout (p-values range from 0.003 to <0.0001), compared to patients with negative MSU microscopy and other clinical diagnoses, respectively. All four elementary lesions were found to have high sensitivity (ranges from 0.74–0.88) for gout, both when MSU microscopy and when clinical diagnosis was used as gold standard reference. DC and aggregates had the highest sensitivities (0.85–0.88). Low specificity (0.33–0.64) was found for both aggregates and erosions, both when microscopy and clinical diagnosis was considered the gold standard. In contrast, DC and tophus showed high specificities for patients with microscopically proven gout (0.73 and 0.87, respectively) and particularly patients with clinically diagnosed gout (both 0.93).

DC and tophi were also found to have high positive predictive values (PPV) for gout for patients with microscopically proven gout (0.88 and 0.93, respectively) and especially for patients with clinically diagnosed gout (both 0.97). In contrast negative predictive values (NPV) were relatively low for all lesions (ranges from 0.36–0.72).

Abstract FRI0229 – Table 1. US findings in patients with microscopically proven or clinically defined gout.

		Microscopy gold standard reference						Clinical diagnosis gold standard reference					
		No. 49						No. 51					
		Microscopy positive	Microscopy negative	Sensitivity	Specificity	PPV	NPV	Fisher's exact test	Clinical gout	Clinical no gout	Sensitivity	Specificity	PPV
US lesions**	No.	34	15					P-value*	No.	37	14		
DC	Present	33	29	4	0.65	0.73	0.68	0.0001	33	32	1	0.68	0.93
	Absent	14	5	11					18	5	13		0.72
Tophi	Present	29	27	2	0.79	0.87	0.93	0.05	30	29	1	0.78	0.93
	Absent	20	7	13					21	8	13		0.62
Aggregates	Present	37	30	7	0.88	0.93	0.61	0.67	37	32	5	0.68	0.64
	Absent	12	4	8					14	5	9		0.64
Erosions	Present	35	25	10	0.74	0.33	0.71	0.36	36	28	8	0.75	0.43
	Absent	14	9	5					15	9	6		0.40

*P-values are calculated using Fisher's exact test, two-sided p-values.

**Joints evaluated by US: Metacarpophalangeal, wrist, elbow, metatarsophalangeal, tibiotaral and knee joints. Tendon compartment evaluated by US: Extensor tendons of the wrist, flexors, peroneus, tibialis posterior, quadriceps and patella tendons.

Conclusions: The OMERACT US definitions of gout elementary lesions seem to be a valid tool for diagnosis of gout in clinical practice. Particularly, DC and tophi seem to have a high specificity and high PPV for the disease.

Disclosure of Interest: None declared

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FRI0230 CROWNED DENS SYNDROME, YET ANOTHER RHEUMATIC DISEASE IMPOSTER

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Background: Crowned Dens Syndrome (CDS) is defined as acute cervical or occipital pain, usually associated with elevated acute phase reactants, due to local inflammatory reaction related to calcifications in the ligaments surrounding the odontoid process. Virtually all previous descriptions of CDS have been related to calcium pyrophosphate dehydrate (CPPD) arthropathy.

Objectives: To evaluate patients admitted with acute neck pain and/or headache for CDS not only in those with CPPD arthropathy but also in patients with other rheumatic diseases

Methods: Twenty four cases of CDS treated in Zion Medical Centre in 2016–2017 were prospectively reviewed. Patients were evaluated according to clinical and laboratory features, background rheumatic disease, response to treatment and invasive investigational procedures undertaken.

Results: All patients (age range 54 to 87 years, 67% females) presented with acute onset pain in upper neck and/or occiput accompanied with extreme neck stiffness. Nineteen of 24 patients (79%) had elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). Five patients (21%) complained on concomitant severe diffuse headache. Four of those underwent temporal artery biopsy, which was negative for arteritis in all cases, and one was subjected to lumbar puncture, which was non-contributory.

The diagnosis of CDS was based on computed tomography imaging in all patients, with precipitations of calcium pyrophosphate dehydrate seen most often in transverse ligament (figure 1) or in alar ligaments.

Seventeen patients (71%) had known rheumatic disease on presentation: 10 patients had the diagnosis of CPPD arthropathy, 3 patients had ankylosing spondylitis, 2 patients had rheumatoid arthritis, 1 patient had Behcet's disease and 1 suffered from Familial Mediterranean Fever (table 1). In 4 more patients CDS was the presenting symptom of CPPD disease, diagnosed during hospitalisation.

All patients were treated with glucocorticoids as 0.5 mg/kg prednisone plus colchicine 0.5 mg bid resulting in dramatic improvement in both clinical (head/neck pain alleviated and cervical spinal mobility regained) and laboratory measures.

Abstract FRI0230 – Table 1. Clinical and laboratory feature of 24 patients with crowned dens

Age, median(range)	71(44-87)
Female (ratio)	16/24 (66%)
Presentation symptoms:	No. (%)
Neck pain	24 (100%)
Headache/Fever	5 (20.6%) 1 (4%)
Antecedent rheumatologic diagnosis:	No. (%)
Calcium pyrophosphate dehydrate	14 (58%)
Ankylosing spondylitis	3 (12.5%)
Rheumatoid arthritis	2 (8.3%)
Behcet's disease	1 (4%)
Familial Mediterranean Fever	1 (4%)
Elevated CRP/ESR, (mean)	19 (60 mg/l)
Patient underwent temporal artery biopsy	4 (16.6%)