

Supplementary Table S1. Table of confusion reporting false positives, false negatives, true positives, and true negatives of the index test (ACR/EULAR criteria) against the reference test (presence of MSU crystals in the synovial fluid).

ACR/EULAR score	MSU+	MSU-
Full set of criteria		
≥ 8 points	62	1
< 8 points	18	40
Clinical subset of criteria		
≥ 8 points	56	3
< 8 points	24	38

MSU: monosodium urate crystals; ACR/EULAR: American College of Rheumatology/European League Against Rheumatism.

Supplementary Table S2. Baseline characteristics and clinical, laboratory and imaging features in male and female MSU-positive patients.

Features	Male MSU+ n=74	Female MSU+ n=6	p-value
Age (years), mean (± SD)	62.3 (±11.6)	69.5 (±10.7)	0.168
Caucasian, n (%)	72/74 (97.3)	6/6 (100)	1
Current smokers, n (%)	27/73 (37)	2/6 (33.3)	0.07
BMI, mean (± SD)	27.2 (±3.7)	23.8 (±2.7)	0.02
Duration since first arthritis (years), mean (± SD)	6.8 (±8.7)	9.7 (±16.7)	0.732
Early-stage disease (<2 years), n (%)	31/73 (42.5)	3/6 (50)	0.674
Pattern of current joint involvement, n (%)	73/74 (98.6)	6/6 (100)	1
Monoarticular (1 joint)	52	4	
Oligoarticular (2 to 4 joints)	21	2	
Polyarticular (>4 joints)	0	0	
Absent	1	0	
Swollen joints (0 to 66), median (range)	1 (1-2)	1 (1-1.8)	0.592
Tender joints (0 to 68), median (range)	1 (1-2)	2.5 (1.2-3)	0.225
Presence of tophi, n (%)	26/72 (36.1)	1/6 (16.7)	0.658
Current SUA level (mg/dl), mean (± SD)	7.6 (±2)	6.7 (±2.2)	0.469
Highest SUA level (mg/dl), mean (± SD)	9.1 (±1.7)	7.6 (±1.1)	0.03
Hypertension, n (%)	41/72 (56.9)	4/6 (66.7)	1
Ischaemic heart disease, n (%)	12/70 (17.1)	0/6 (0)	0.581
Kidney failure/nephropathy, n (%)	14/69 (20.3)	0/6 (0)	0.586
COPD, n (%)	10/68 (14.7)	1/6 (16.7)	1
Hyperuricaemia, n (%)	69/74 (93.2)	4/6 (66.7)	0.084
DM type II, n (%)	7/69 (10.1)	0/6 (0)	1
Dyslipidaemia, n (%)	26/70 (37.1)	1/6 (16.7)	0.413
Metabolic syndrome, n (%)	17/69 (24.6)	0/6 (0)	0.327
Psoriasis, n (%)	11/71 (15.5)	0/6 (0)	0.585
Lymphoproliferative disorders, n (%)	1/69 (1.4)	0/6 (0)	1
Haemolytic process, n (%)	0/68 (0)	0/6 (0)	1
Hyperparathyroidism, n (%)	2/69 (2.9)	0/6 (0)	1
Hypothyroidism, n (%)	1/69 (1.4)	1/6 (16.7)	0.155
Haemochromatosis, n (%)	1/69 (1.4)	0/6 (0)	1
Other comorbidities, n (%)	17/69 (24.6)	5/6 (83.3)	0.007
Inflammatory arthropathy, n (%)	4/74 (5.4)	3/6 (50)	0.008
Arthrosis, n (%)	36/74 (48.6)	4/6 (66.7)	0.675
Fibromyalgia, n (%)	1/67 (1.5)	0/6 (0)	1
Double contour or tofus (articular ecography inspection), n (%)	29/54 (53.7)	3/4 (75)	0.62
VAS pain, mean (± SD)	69.3 (±22.3)	73.2 (±31.6)	0.336
HAQ, mean (± SD)	0.9 (±0.6)	1 (±0.4)	0.702
Urate-lowering agent, n (%)	35/69 (50.7)	2/4 (50)	1
NSAIDs or colchicine, n (%)	53/73 (72.6)	5/6 (83.3)	1
Corticosteroids, n (%)	13/61 (21.3)	2/4 (50)	0.226
Diuretics, n (%)	17/62 (27.4)	2/6 (33.3)	1
Low-dose aspirin, n (%)	7/59 (11.9)	1/6 (16.7)	0.561
Joint involvement:			
first metatarsophalangeal, n (%)	29 (39.19)	1 (16.7)	0.402
other metatarsophalangeal, n (%)	1 (1.35)	0 (0)	1
tarsal, n (%)	3 (4.05)	0 (0)	1
ankle, n (%)	19 (25.7)	1 (16.7)	1
knee, n (%)	36 (48.7)	2 (33.3)	0.678
hand, n (%)	5 (6.76)	2 (33.3)	0.084
wrist, n (%)	4 (5.41)	2 (33.3)	0.062
elbow, n (%)	3 (4.1)	0 (0)	1
shoulder, n (%)	0 (0)	0 (0)	1
tendons, n (%)	0 (0)	0 (0)	1
bursa, n (%)	5 (6.76)	0 (0)	1

Data shown as mean ± standard deviation (SD) or median and interquartile range or number (%). $p < 0.05$. Significant p -values are indicated in bold.

MSU: monosodium urate crystals; <2y: less than two years; ≥2y: greater than or equal to 2 years; +: positive; -: negative; BMI: Body Mass Index; SUA: serum uric acid; COPD: chronic obstructive pulmonary disease; DM: diabetes mellitus; VAS: visual analogue scale; HAQ: Health Assessment Questionnaire; NSAIDs: non-steroidal anti-inflammatory drugs; ACR/EULAR: American College of Rheumatology/European League Against Rheumatism; SD: standard deviation.

Supplementary Table S3. Baseline characteristics and clinical, laboratory and imaging features in MSU positive patients with early-stage and established disease.

Features	<2 years MSU+ n=31	≥2 years MSU+ n=49	p-value
Female, n (%)	3/31 (9.7)	3/49 (6.1)	0.672
Age (years), mean (± SD)	62.6 (±11.3)	62.9 (±12)	0.836
Caucasian, n (%)	30/31 (96.8)	48/49 (98)	0.628
Current smokers, n (%)	9/31 (29)	20/48 (41.7)	0.323
BMI, mean (± SD)	27.2 (±3.7)	26.8 (±3.8)	0.734
Pattern of current joint involvement, n (%)	31/31 (100)	48/49 (98)	0.613
Monoarticular (1 joint)	24	32	
Oligoarticular (2 to 4 joints)	7	16	
Polyarticular (>4 joints)	0	0	
Absent	0	1	
Swollen joints (0 to 66), median (range)	1 (1-1)	1 (1-2)	0.095
Tender joints (0 to 68), median (range)	1 (1-2)	2 (1-3)	0.419
Presence of tophi, n (%)	6/31 (19.4)	21/47 (44.7)	0.029
Current SUA level (mg/dl), mean (± SD)	7.3 (±1.6)	7.6 (±2.2)	0.268
Highest SUA level (mg/dl), mean (± SD)	8.6 (±1.7)	9.2 (±1.7)	0.08
Hypertension, n (%)	18/30 (60)	27/48 (56.2)	0.816
Ischaemic heart disease, n (%)	4/29 (13.8)	8/47 (17)	1
Kidney failure/nephropathy, n (%)	6/29 (20.7)	8/46 (17.4)	0.767
COPD, n (%)	5/29 (17.2)	6/45 (13.3)	0.742
Hyperuricaemia, n (%)	30/31 (96.8)	43/49 (87.8)	0.239
DM type II, n (%)	2/29 (6.9)	5/46 (10.9)	0.7
Dyslipidaemia, n (%)	10/30 (33.3)	17/46 (37)	0.81
Metabolic syndrome, n (%)	8/29 (27.6)	9/46 (19.6)	0.572
Psoriasis, n (%)	4/31 (12.9)	7/46 (15.2)	1
Lymphoproliferative disorders, n (%)	1/29 (3.4)	0/46 (0)	0.387
Haemolytic process, n (%)	0/29 (0)	0/45 (0)	1
Hyperparathyroidism, n (%)	1/29 (3.4)	1/46 (2.2)	1
Hypothyroidism, n (%)	2/29 (6.9)	0/46 (0)	0.146
Haemochromatosis, n (%)	0/29 (0)	1/46 (2.2)	1
Other comorbidities, n (%)	11/29 (37.9)	11/46 (23.9)	0.206
Inflammatory arthropathy, n (%)	4/31 (12.9)	3/49 (6.1)	0.421
Arthrosis, n (%)	15/31 (48.4)	25/49 (51)	1
Fibromyalgia, n (%)	0/27 (0)	1/46 (2.2)	1
Double contour or tofus (articular ecography inspection), n (%)	12/18 (66.7)	20/40 (50)	0.268
VAS pain, mean (± SD)	77 (±15.7)	64.8 (±25.6)	0.043
HAQ, mean (± SD)	0.9 (±0.6)	0.9 (±0.6)	0.736
Urate-lowering agent, n (%)	13/28 (46.4)	24/45 (53.3)	0.634
NSAIDs or colchicine, n (%)	22/31 (71)	36/48 (75)	0.796
Corticosteroids, n (%)	5/27 (18.5)	10/45 (22.2)	0.773
Diuretics, n (%)	8/27 (29.6)	11/41 (26.8)	1
Low-dose aspirin, n (%)	5/28 (17.9)	3/37 (8.1)	0.275
Joint involvement:			
first metatarsophalangeal, n (%)	18/31 (58.1)	12 (24.5)	0.004
other metatarsophalangeal, n (%)	0 (0)	1 (2)	1
tarsal, n (%)	1 (3.23)	2 (4.1)	1
ankle, n (%)	5 (16.1)	15 (30.6)	0.189
knee, n (%)	11 (35.5)	27 (55.1)	0.11
hand, n (%)	1 (3.2)	6 (12.2)	0.239
wrist, n (%)	1 (3.2)	5 (10.2)	0.397
elbow, n (%)	0 (0)	3 (6.1)	0.279
shoulder, n (%)	0 (0)	0 (0)	1
tendons, n (%)	0 (0)	0 (0)	1
bursa, n (%)	3 (9.68)	2 (4.1)	0.37

Data shown as mean ± standard deviation (SD) or median and interquartile range or number (%).

$p < 0.05$. Significant p -values are indicated in bold.

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