On the other hand, REMS examinations at femoral neck, performed on 397 people, revealed that osteoporosis resulted in 25% of the sample and osteopenia in 54%. Also in this case, people with a T-score < -2.5 was suggested to perform a DXA, considering that the accuracy and operator-independent automatic analysis performed by REMS, make more reliable the obtained data.

Conclusions: Nowadays, with REMS introduction, F.I.R.M.O. foundation and the health system could avail themselves of a new non-invasive, rapid, easy-to-use and automatized technology for the prevention of osteoporosis.

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AB1201

ULTRASONOGRAPHY POWER DOPPLER(PDUS) IN EARLY ARTHRITIS. DOES 44 JOINT COUNT PREDICTE MORE ACCURETLY THE DEVELOPMENT OF RA THAN OTHER ULTRASOUND COUNTS?

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Background: Early rheumatoid arthritis is a diagnostic challenge for the rheumatologist since early treatment may be crucial for reaching remission and low rate of structural damage. Previous correlation studies between different ultrasonographic (US) scores suggested that few joint examination may be equivalent to more comprehensive ones about the inflammatory activity in established rheumatoid arthritis.

Objectives: To determine if the presence of basal power doppler US signal in patients with early arthritis by three different US joint counts (12, 28 or 44 joint based) may be equally useful in order to establish the risk of final diagnosis of rheumatoid arthritis (RA) according ACR criteria 1987 at a year of follow up.

Methods: We studied the presence of US Power Doppler (PD) signal on 28 joints (shoulders, elbows, wrists, MCPs, PIPs, knees), 44 joints (28 joints and in addition hips, ankles, tarsus and MTP joints) and in 12 joints (elbows, MCFs 2 and 3, wrists, knees and ankles), with a mid-range equipment GE L5 in 70 patients with suspected RA. The patients met at least one of the following inclusion criteria: a) Swelling in 2 or more joints b) pain in MCPs, MTPs and/or the wrists c) morning stiffness of more than 30 min with <12 months of duration of the symptoms and no previous steroid nor DMARDs treatment. At one year of follow-up was established whether patients met ACR 1987 classification criteria for RA or not. PD signal was scored 0-3, and PD score sum index (IPD) was the total sum of scores in each joint for 44, 28 and 12 joint counts. Correlations between 44, 28 and 12 joint US IPDs were studied as well. Statistical study: Chi-square, Fisher exact test, p univariate, Odds Ratio, Spearman correlation.

Results: The presence of basal power doppler signal in ≥1 joint of 44 (PD44) is associated to RA diagnosis at 12 months by ACR 1987 criteria, p=0.003, OR=5.43^{1,71-17,24} but the presence of ≥1 joint with power doppler signal of 28 joints (PD28) did not (p=0.051). The presence ≥1 joint with basal power doppler signal of 12 joints (PD12) was associated to RA diagnosis at 12 months with OR 3.11^{1-12-8,6} p=0.026 as well, so may predict development of RA. However, we missed 6/44 (14%) of patients that were not diagnosed of RA when we evaluate only 12 joints. We found high correlations between IPD44 and IPD28 (0.845), IPD44 and IPD12 (0.807) and between IPD28 and IPD12 sum scores (0.913).

BASAL VARIABLES n=70		RA YES	p (univariate)	OR	95% CI
PD 44	YES	38/52 (73,1%)	0.003	5,43	(1,71-17,24)
	NO	6/18 (33,3%)			
PD 28	YES	35/50 (70%)	0.051	-	-
	NO	9/20 (45%)			
PD 12	YES	32/44 (93,9%)	0.026	3,11	(1,12-8.60)
	NO	14/26 (53,7%)			

Abstract AB1201 – Figure 1

Conclusions: The presence of at least one joint with power doppler signal of 44 joints (PD44) on baseline visit may help to predict the RA diagnosis at 12 months of follow up according ACR 1987 criteria in patients with early RA, but PD28 did not. PD12 reduced joint count may help to predict RA as well but missed 14% of RA patients. Odds ratio rendered better information for different PD joint count about early identification of RA, whereas correlations were high between all different US joint scores. Further studies are required to decide the best US joint set for early identification of patients with early rheumatoid arthritis, but inclusion of ankle/foot joints may be important.

Disclosure of Interest: None declared

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AB1202

IS FLUORESCENCE OPTICAL IMAGING ASSESSMENT ASSOCIATED WITH ULTRASONOGRAPHY SYNOVITIS IN THE WRIST AND HAND OF RHEUMATOID ARTHRITIS PATIENTS?

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Background: Fluorescence optical imaging (FOI) has been used for assessment of inflammation (i.e. synovitis) in the hands and has in several cross sectional studies been compared with ultrasonography (US) and magnetic resonance imaging (MRI), using different, but not validated scoring systems.

Objectives: The primary objective was to examine the association between FOI and US for assessment of synovitis in the rheumatoid arthritis (RA) hands, in a longitudinal study, using a new validated and clinically feasible FOI scoring system.

Methods: 46 RA patients, eligible for induction or intensification of conventional synthetic or biological disease modifying anti-rheumatic drugs and with ≥1 clinically swollen joint in the hand, were included. FOI image-sets of both wrists and hands were obtained at baseline and 6 months' follow-up using a Xiralite system unit (nanoPET Pharma GmbH, Berlin, Germany). The patients received a bolus of i.v. indocyanine green (ICG) pulsion 10 s after starting the examination, which obtained 1 image/second for 6 min.

All FOI images were scored by two readers for synovitis at the wrist, 1st-5th metacarpophalangeal, 1st interphalangeal and 2nd-4th proximal interphalangeal joint levels in both hands, using the novel semiquantitative scoring system. Each joint was scored 0-3 (range 0-66) for synovitis. The readers were blinded to patient data, but not chronology and had previously showed a high intra- and inter-reader agreement (intra-class correlation coefficient (ICC):0.70-0.92).

For ultrasound assessment, a GE Logiq E9 US unit with a high frequency linear 6-15 ML probe and with Doppler settings according to published recommendations was used. Synovitis was scored from 0-3 for grey scale (GS) and Doppler (DP) using the OMERACT US synovitis scoring system by two trained assessors who had previously demonstrated high intra- and inter-reader agreement (wKappa:0.88-0.95).

DAS28-CRP and swollen joint count (SJC) in the hand were assessed at both time points.

Descriptive statistics and the Wilcoxon signed-rank test were used to assess change in score over time. Agreement for status and change scores were assessed using single measure ICCs and spearman's correlation (SP). Responsiveness was assessed using standardised response mean (SRM).

Results: Median (IQR) total score at baseline was FOI 11.0 (6;19), GS 14.5 (8;22), DP 8 (3;14), DAS28 5 (4.4;5.4) and SJC 6 (3;8) and improved with -7.8 (-13;-3.5) -9 (-15;-3.5), -5.5 (-11;-0.5), -2(-2.9;-0.8) and -4(-7;-2) at 6 months' follow up, respectively (p<0.01). Figure 1 presents the change score and a trend line based on 4 patients' average score.

ICC and SP between FOI and US (GS and DP) total scores were low for both readers at baseline (range 0.3-0.4) (p<0.05), and low to moderate (range 0.31-0.54) (p<0.01) for change scores. The mean SRM for total change scores between baseline and 6 months' follow-up were good for all parameters (FOI:0.9,