level >60 IU/L (OR=5.4; CI95% 1.9-15.3) were predictive for progression to RA.

Conclusion: Our study suggests that clinical evaluation of EIA by DAS28-CRP from the time of diagnosis, as well as evaluating the presence of RA auto-antibodies, can predict progression to RA.

Disclosure of Interests: None declared

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AB0220 TENOSYNOVITIS AS THE PRESENTING FEATURE OF FLARE IN RHEUMATOID ARTHRITIS

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Background: The importance and relevance of tenosynovitis (TS) has long been recognised in rheumatoid arthritis (RA), but it is not usually considered in disease activity assessments. The significance of TS in early arthritis (EA) has also been recognised and, using ultrasound (US) it has recently been identified as a precursor to RA¹. The ongoing BIO-FLARE (BIOlogical Factors that Limit sustAined Remission in rhEumatoid arthritis) observational study aims to investigate the pathogenesis of flare in RA. Patients with RA in remission stop their disease modifying anti-rheumatic drug medication (DMARDs: methotrexate, sulfasalazine and/or hydroxychloroquine) and are closely followed for 6 months, in anticipation that approximately 50% will experience a flare. We investigated whether TS occurrence was a frequent herald of flare in this cohort.

Objectives: To review the case notes of 49 patients in the BIO-FLARE study with confirmed flare to date, seeking evidence of US tenosynovitis prior to or concurrent with flare.

Methods: Patients in the study who are deemed to be in remission based on a disease activity score (DAS28-CRP) < 2.4 stop their DMARD medication and attend regularly for review over 6 months, with provision for ad-hoc appointments if symptoms return between visits. Patients are defined as having a flare if their DAS28-CRP ≥ 3.2 at any point or two consecutive DAS28-CRP ≥ 2.4. Targeted US assessment occurs at baseline only for patients that consent to an optional baseline ultrasound-guided synovial biopsy. If a flare occurs, US of symptomatic joints is undertaken, to assess suitability for a synovial biopsy. Following this, the patient receives a steroid injection and restarts their DMARD medication.

Results: To January 2020, 120 patients had been recruited into the study and 49 experienced a flare. Seven patients had a flare predominantly or initially characterised by TS or paratenonitis, the results of which are summarised in Table 1.

Table 1. Tenosynovitis in BIO-FLARE

	DMARD stopped	Time to TS, weeks	Tendon involved	Time to flare, weeks	Joints involved
1	Methotrexate, sulfasalazine, hydroxychloroquine	12	Extensor carpi ulnaris	12	Shoulders and PIPJs, no synovitis suitable to biopsy
2	Methotrexate	7	Bilateral extensor carpi ulnaris	7	Shoulders, wrists, knees, PIPJ with no accompanying synovitis
3	Methotrexate	5	Tibialis posterior	5	No joints flared, no synovitis but treated as a flare due to severity of TS
4	Methotrexate	8	Tibialis posterior – attributed to increase in patient activity	22	MCPJ, PIPJs, mid tarsal and MTPJ
5	Methotrexate and hydroxychloroquine	7	Extensor pollicis longus	8	Polyarticular flare
6	Methotrexate and hydroxychloroquine	2	Extensor carpi ulnaris – attributed to overuse	6	Polyarticular flare
7	Methotrexate	12	Extensor paratenonitis at PIPJ4 & 5	12	MCPJ synovitis

Conclusion: Although highlighted as a precursor of RA in early arthritis¹, the occurrence of TS in the context of flare – and the prodrome heralding this – has not been studied. Our findings show that TS in early flare is reminiscent of the features sometimes seen in EA or clinically suspect arthralgia². Further data are required to determine the role of periarticular inflammatory phenomena, such as TS, as risk factors for joint synovitis. Our study did not entail formal US assessments, therefore the rate of TS in this population may be under estimated. Careful study of RA patients in early phase of disease flare may pose an opportunity to characterise the nature and chronology of this association in greater depth.

References:

[1] Sahbudin I et al. Rheumatology. 2018;57(7):1243-1252

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AB0221 ULTRASOUND ASSESSMENT OF INFLAMMATORY ARTHRALGIA: PREDICTORS FOR CHRONIC ARTHRITIS DEVELOPMENT

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Background: Inflammatory arthralgia (IA) onset is a common rheumatology consultation. Identifying predictors for chronic arthritis (CA) development by ultrasonography (US) may provide early diagnosis and treatment in order to prevent progression of the disease.

Objectives: Establishing US findings that can be related to CA development in patients with inflammatory arthralgia without arthritis. Assess the link among US, clinical and biochemical parameters.

Methods: A prospective longitudinal study of a cohort of patients with IA. Patients with less than one year of AI evolution and involvement of at least one small joint from hands or feet were included. Patients with arthritis, osteoarthritis, fibromyalgia and those treated with DMARDs or steroids were excluded. We made a 6-monthly evaluation for 2 years and recorded the CA development during that period. The number of painful joints (PJC) and biochemical data (CRP, ESR) were assessed at the first visit. A blind US exploration was made using a MyLabTwice (Esaote) equipment with a 5-13MHz probe for greyscale (GS) and Power Doppler (PD), examining 36 joints (radio-carpi, MCP, IPP, 2nd-5th MTP, elbows, shoulders and knees) and 14 tendon compartments (2nd, 4th and 6th wrist extensors, 3rd and 4th finger flexors and posterior tibial and fibularis tendons), giving an overall score of GS, PD (0-3) and number of erosions by rating the presence of synovitis on each location.

We performed a descriptive analysis based on the frequencies of qualitative variables and mean±SD/median (IQR) of quantitative variables, comparing the characteristics between patients with and without CA progression by Chi-Square and Mann-Whitney U tests. Also, the possible relationship of those variables and the disease progression was assessed by a univariate binary logistic regression analysis.

We designed a reduced US examination (RUE) selecting the most affected locations and those with greatest differences between groups in the statistical analysis.

Results: Of the 49 patients included, 21 (42.9%) progressed to CA. 87% were females and 71.4% non-smokers with a mean age of 44 ± 12 years. The median of PJC was 4 (1-9). RF and/or CCPA were positive in 18.4% and 34.7% had high CRP/ESR. The suggested RUE included carpi, 2nd-4th MCP, 2nd-3rd IPP, 2nd and 5th MTP, 4th and 6th wrist extensors and fibularis tendons. Scores and comparative analysis within subgroups are listed in Table 1. The RUE score was significantly greater in both GS (OR 1.4, CI 95%) and PD (OR 1.3, CI 95%) on patients that progressed to CA.

Table 1. GS and PD scores compared by main locations and RUE-Score [showed as median (IQR)].

Score	No progression (n=28)	Progression to IA (n=21)	P
GS global	5.5 (2-11)	11 (7-15)	0.005*
PD global	2 (1-3.25)	6 (2-10)	0.002*
ERO global	0 (0-0)	0 (0-0)	0.59
Carpi GS	1 (0-2)	3 (2-3)	0.002*
Carpi PD	1 (0-2)	1 (0-3)	0.16
MCP GS	1 (0-3.25)	2 (0-5)	0.08
MCP PD	0 (0-1)	1 (0-2)	0.03*
IPP GS	0 (0-1.25)	2 (0-3)	0.03*
IPP PD	0 (0-0.25)	0 (0-1)	0.3
MTP GS	0.5 (0-3)	2 (0-7)	0.08
MTP PD	0 (0-0)	0 (0-1)	0.02*
Wrist extensors GS	0 (0-0)	0 (0-1)	0.1
Wrist extensors PD	0 (0-0)	0 (0-0)	0.01*
Fibularis GS	0 (0-0)	0 (0-0)	1
Fibularis PD	0 (0-0)	0 (0-0)	0.06*
RUE GS	5 (2-6.25)	7 (5-10)	0.01†
RUE PD	2 (1-3.5)	5 (2-7)	0.01†

* Medians compared by Mann-Whitney U test. Statistical significance at a 95% CI. † Logistic regression analysis. Statistical significance at a 95% CI.

There were no significant associations between RF/CCPA positivity or CRP/ERS levels and US findings.

Conclusion: Patients with IA without arthritis that progressed to CA had significant higher GS and PD scores, hence showing the utility of US to predict disease progression. A RUE of 8 joints and 3 tendon compartments could be enough to achieve this goal.

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AB0222 HEALTH STATE UTILITY VALUES IN RHEUMATOID ARTHRITIS BY SEX, AGE AND DISEASE ACTIVITY: REFERENCE DATA FROM A COLOMBIAN COHORT OF 1,545 PATIENTS

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Background: As the basis for quality-adjusted life years (QALYs) calculation, health state utilities are essential for health technology assessment and economic evaluation.

Objectives: To provide a reference value set of health state utility for patients with rheumatoid arthritis.

Methods: A cross-sectional study was conducted in 1,545 patients diagnosed with rheumatoid arthritis. Disease activity was evaluated with the DAS-28 score. Health state utility (HSU) was estimated with the EUROQOL-5D-3L, using as reference the Spanish-speaking Hispanic predicted preference weights for 243 EQ-5D health states. Mean HSU differences were analyzed with the generalized linear model. A p-value <0.05 was considered statistically significant.

Results: Patients mean age was 58.2 years (SD = 12.5), 82.4% were female. Disease activity was high in 137 (8.9%), moderate in 305 (19.7%) and low in 231 (56.4%) patients; 872 (56.4%) patients were in remission. HSU differed significantly by sex age and disease activity. Figures 1a (women) and 1b (men) shows the HSU by age and disease activity.

Figure 1. Health State utilities by sex, age and disease activity

Conclusion: The way patients value different health states according to their sex, age and disease activity must be considered in health technology assessment and economic evaluations of interventions for rheumatoid arthritis patients. We provide a reference set for Latin-American patients.

References:

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AB0223 PHYSICIAN'S GLOBAL ASSESSMENT OF DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS IS A RELIABLE AND RESPONSIVE TOOL IN CLINICAL PRACTICE

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Background: Physician's global assessment of disease activity (PhGA) is highly influential upon treatment decisions taken by rheumatologists, surpassing the impact of DAS28. [1, 2]. However, data regarding its psychometric properties are scarce.

Objectives: To evaluate the reliability and responsiveness of PhGA.

Methods: We included two consecutive visits of RA patients followed in a Tertiary Rheumatology Department. Socio-demographic (age and gender) and clinical data were collected including tender (TJ28) and swollen (SJC28) joints in 28 count, C-Reactive Protein (CRP), Erythrocyte Sedimentation Rate (ESR), Disease activity Score (DAS28-3v-CRP, DAS28-3v-ESR, DAS28-4v-CRP, DAS28-4v-ESR), PhGA and Patient Global Assessment of disease Activity (PGA) through a Visual Analogic Scale (VAS) 0-100mm. Changes (Δ) between the two visits were calculated. Only patients without missing data were included. Correlations between Δ PhGA and change of other variables were assessed using Pearson's correlations. Reliability was evaluated through Intraclass Correlation Coefficient (ICC) between two consecutive appointments in a subgroup of patients with stable disease activity (Δ DAS28-4vESR [-0.6 to 0.6]). An ICC above 0.8 was considered indicative of excellent reliability. Sensitivity to change was assessed in the subgroup of patients who improved their disease activity at least 0.6 on DAS28-4v-ESR, through Standardized Response Mean (SRM). The respective intervals of confidence were obtained through bootstrapping procedures. SRM above 0.8 were considered large. Independent factors associated with Δ PhGA were identified through multivariate linear regression analysis. $p < 0.05$ was considered statistically significant.

Results: 121 RA patients (84.3% female and 64.0 ± 12.6 years) were included. Δ PhGA was weakly correlated with Δ CRP ($r = 0.23$), Δ PGA ($r = 0.31$) and Δ pain ($r = 0.37$). Moderate to strong correlations were observed with Δ DAS28-3V-ESR ($r = 0.55$), Δ SJC28 ($r = 0.56$), Δ DAS28-3V-CRP ($r = 0.58$), Δ DAS28-3V-CRP ($r = 0.60$), Δ TJ28 ($r = 0.62$) and Δ DAS28-4V-CRP ($r = 0.63$). ICC between two consecutive visits was 0.7, [95%CI:0.47-0.83] and SRM was -1.01 [95%CI:-1.26-(-0.73)]. In the multivariate regression analysis, Δ SJC28 ($\beta = 4.01$; 95% CI: 3.07 to 4.96) and Δ Pain ($\beta = 0.18$; 95%CI: 0.07 to 0.28) remained as independent factors associated with Δ PhGA ($R^2: 0.49$, $p < 0.01$).

Conclusion: In this study, PhGA showed a high reliability and sensitivity to change regarding disease activity, in clinical practice. Changes in SJC had the strongest association with change in PhGA scoring, but Δ Pain was also significantly correlated (graph 1).