patients not able to stop GCs, reflect a more aggressive disease, refractory to conventional drugs.

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AB0203 CLINICAL PHENOTYPE AND ULTRASOUND CHARACTERISTICS OF RHEUMATOID ARTHRITIS FLARE AFTER DISCONTINUATION OF CONVENTIONAL SYNTHETIC DMARDS

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Background: Current protocols based on early and intensive treatment with csDMARDs in rheumatoid arthritis (RA) have allowed the achievement of remission in a considerable proportion of the patients and opened the perspective, in selected cases, of a drug-free monitoring scheme. Treatment discontinuation can lead, however, to possible recurrence of joint inflammation and clinical flare. Understanding the dynamics acting upstream these events remains a fundamental research task with direct clinical and patho-biologic implications.
Objectives: To delineate the clinical, serological and ultrasonographic changes associated to a drug-free flare in patients discontinuing csDMARD after achievement of stable remission. Co-primary objective was to compare, through a retrospective analysis in the same patients, these changes with early features of the pathology at onset, before treatment introduction.
Methods: 92 RA patients in stable DAS28 remission following a DAS-steered treatment strategy with MTX were recruited in our Centre and introduced to a drug-free monitoring scheme according to the following inclusion criteria: a) treatment introduced within 12 months from symptoms' onset, b) at least 24 months of continuative treatment, c) DAS28 <2.6 for at least 6 months in the absence of glucocorticoids. After discontinuation, all patients were follow-up at three months intervals across 24 months through complete clinical, ultrasonographic (power Doppler ultrasound –PDUS- in hands-feet and tendons) and serological analyses. Treatment was re-introduced upon occurrence of moderate disease activity (DAS28 $\geq$3.2) in a single occasion.
Results: A total drug-free follow-up of 1398 person-months was analysed with a median (IQR) of $15^{6–24}$ months. Thirty-eight patients (27/38 in ACR/EULAR Boolean remission, 16/38 with PD score=0 at withdrawal visit) required treatment re-introduction after a median (IQR) time from discontinuation of $6^{3–9}$ months (range 3–18). DAS28 variations at re-treatment showed a mean (SD) increase of 2.26 (1.03), reflecting significant differences in all DAS components (p<0.001 for ESR, tender joint count, swollen joint count and GH). Clinical activity in flaring subjects was paralleled by average changes in synovial US, with increased PD scores in hands joints (median [IQR]: 3.5 [0.5–7] vs 1 [0–2], p<0.001), feet (1 [0–4] vs 0 [0–0.5], p=0.002) and tendons (0 [0–2] vs 0 [0–0], p=0.002), determining *ex-novo* PD positivity in 85.7% of PD negative patients (p<0.001). Despite stringent remission achieved at the time of discontinuation, no significant differences were observed between disease onset and drug-free flare in DAS28 (p=0.26), patient global assessment of disease activity (p=0.53) and synovial US scores (p=0.61 for grey scale, p=0.31 for PD) with recurrence of similar patterns of clinical joint involvement.
Conclusions: Drug-free clinical flare can occur over a wide temporal window, in the absence of detectable signs of inflammation at the time of treatment discontinuation. It can associate with *ex-novo* recurrence of US pathologic changes at joint and tendon level, reproducing some of the quantitative/qualitative features of disease onset.
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AB0204 RADIOGRAPHIC PROGRESSION OF LARGE JOINT DAMAGE IN PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH BIOLOGICAL DISEASE-MODIFYING ANTIRHEUMATIC DRUGS (BDMARDS) AND ITS PREDICTIVE FACTORS: RESULTS OF 3 TO 4 YEARS FOLLOW-UP

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Background: Although damage to large joints such as the shoulder, elbow, hip, knee, and ankle has a substantially larger impact on functional ability than damage to the small joints of the hand and foot,[1 2] large joints are not routinely monitored for progressive damage in patients with rheumatoid arthritis (RA). Furthermore, a little information is available regarding long-term follow-up results of radiographic progression of damage (RPD) to the large joints during treatment with biological disease-modifying antirheumatic drugs (bDMARDs).
Objectives: We investigated ratios of RPD to the large joints in RA patients treated with bDMARDs for 3 to 4 years and analysed association between RPD and patient backgrounds or Larsen grades of individual large joint.
Methods: Sixty-eight patients (naïve: 42, switch: 26) receiving bDMARDs (IFX: 5, ETN: 9, ADA: 7, GLM: 3, CZP: 5, TCZ: 28, ABT: 11) for 3 to 4 years or achieving bDMARDs-free status were included in this study. The mean age and disease duration at the start of bDMARDs was 62.7 year-old and 10.7 years, respectively, and baseline DAS28-ESR and HAQ was 4.61 and 1.014, respectively. A total of 311 joints including shoulder, elbow, hip, knee, and ankle were evaluated whether there was RPD during the observation period by comparing radiographs before and after the treatment.
Results: RPD was found in 22 patients (31.4%) and 32 joints (10.0%), and it occurred during the former half period in 17 joints and during the latter half period in 15 joints. Joints with Larsen grade (LG) III or more had significantly higher ratios of RPD than those with LG II or less (p<0.01). An ROC analysis was performed to calculate the cut-off value for the progressive damage, which was 2.5 (sensitivity: 50.0%, specificity: 79.6%), suggesting that exceeding LG III would be a risk factor for the RPD to the large joints. A multivariate logistic regression analysis revealed that stage and baseline HAQ were independent risk factors for RPD (cut-off value: 2.5, odds ratio: 8.864 for stage; cut-off value: 1.4375, odds ratio: 6.316 for baseline HAQ).
Conclusions: The stage and baseline HAQ were associated with RPD to the large joints, and progressive damage is expected to increase when the stage exceeds III and/or functional disability exceeds an HAQ score of 1.5. Progressive damage also increases when LG exceeds III. Treatment with bDMARDs should be started before stage, HAQ, and LG exceed III, 1.5, and III, respectively.

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AB0205 COMPARISON OF THORACIC HRCT AND SELF-REPORTED QUESTIONNAIRES IN THE ASSESSMENT OF PULMONARY INVOLVEMENT IN RHEUMATOID ARTHRITIS PATIENTS: PRELIMINARY RESULTS

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Background: Pulmonary involvement in rheumatoid arthritis (RA) is one of the extra-articular manifestations affecting morbidity and mortality during the course of the disease. Pulmonary function tests (PFTs) and thoracic high-resolution computerised tomography (HRCT) are the standard of care in the assessment of pulmonary involvement in RA. In this study, we aimed to compare the findings between self-reported questionnaires and HRCT to detect pulmonary abnormalities in RA patients.
Methods: Forty-two RA patients fulfilling ACR/EULAR classification criteria (2010) who had thoracic HRCT within 6 months of any symptom and/or any pathology on radiography of chest were included in the study. The patients were also assessed by modified Borg Scale, SF-36 Quality of Life Scale and Leicester Cough Questionnaire for the evaluation of respiratory symptoms.
Results: Demographics and clinical characteristics were summarised in table 1. Warrick score, assessing the severity and extent of alveloitis and fibrosis on thoracic HRCT, was evaluated in 15 patients with ILD (score range:4–28). DLCO values were lower in patients with Warrick score $\geq$1 (73±22% vs. 88±12%, p=0.019) while FVC were not found to be different. The findings of HRCT and self-reported questionnaires were summarised in table 2. Any relationship between self-reported questionnaires and Warrick scores was not detected. Presence of any parenchymal lesions was found to be associated with SF-36 total score (p=0,048). DLCO levels were found to be negatively correlated with SF-36 total scores (r=-0,470, p=0,006).

Abstract AB0205 – Table 1. Demographics and clinical characteristics (n=42)

Age (years)	59±9	DMARDs and Biologics	
Sex (W/M)	32/10	MTX	15 (36%)
Smoking (%)	12 (29%)	LEF	19 (45%)
RF(+)	31 (74%)	ADA	5 (12%)
AntiCCP(+)	27 (64%)	IFX	9 (21%)
DAS28-ESR	3.1±1.0	ETA	10 (24%)
Corticosteroids	28 (67%)	ABA	13 (31%)
		TOC	2 (5%)
		TOF	2 (5%)
		RTX	20 (50%)

Abstract AB0205 Table 2. Thoracic HRCT findings and self-reported questionnaires in RA patients

Warrick Score (n=15)	
Alveolitis	2.6±1.2
Fibrosis	12±6.3
Total	15±7
Leicester Cough Questionnaire score (n=42)	18±4
Modified Borg Scale	1.8±2.1
SF-36	53±17

Conclusions: In this study, we could not show any relationship between self-reported questionnaires and thoracic HRCT findings, except a weak association of the presence of parenchymal lesions with SF-36 scores. Alveolitis and/or fibrosis on thoracic HRCT were found to be associated with lower DLCO. DLCO was shown to be negatively correlated with SF-36 scores. SF-36 might be included in the detection of pulmonary evaluation in RA patients. The relationship between thoracic HRCT findings and self-reported questionnaires in RA necessitates further studies.

Disclosure of Interest: None declared

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AB0206 EXPRESSION OF INFLAMMATORY GENES AND THE IL1B GENE ASSOCIATION WITH THE SEVERITY OF RHEUMATOID ARTHRITIS IN TAMIL NADU POPULATION

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Background: Rheumatoid Arthritis (RA) is a multifactorial complex and chronic inflammatory disease associated with progressive joint destruction, disabling and systemic complications. The prevalence is about 0.5%–1% worldwide and 0.9% in India. Genetic factors are recognised to have substantial effect on the susceptibility to RA.

Objectives: The present study aims to investigate the inflammatory caspase genes (*CASP5* and *CASP8*) as well as proinflammatory cytokine interleukin-1beta (IL-1β) in RA patients. Hence the study was designed to explore the possible association of inflammatory genes in Tamil Nadu population.

Methods: We conducted a study involving 55 RA patients and equal number of normal healthy controls and performed gene expression analysis in *CASP5* and *CASP8* genes. We also carried out genotyping of IL-1β gene using PCR-RFLP. For gene expression study, the mRNA levels of inflammatory genes were assessed using qPCR and the inflammatory marker levels (IL-1β) were estimated by ELISA.

Results: The gene expression analysis of RA patients showed activation of *CASP5* and *CASP8* compared to the healthy individuals. The inflammatory marker levels in the serum showed significantly higher levels (23.35±2.12 pg/mL) p<0.05) in RA patients compared to the control subjects. The homozygous and heterozygous mutant variants of *IL1B* were observed to be higher in the RA patients (OR=2.1, p<0.01).

Conclusions: Thus the results of our study suggests that, the mutant alleles of *IL1B* was associated with RA susceptibility which in turn has direct association with the increased levels of serum IL-1β in RA patients. In addition, the activation of inflammatory genes supports the role of inflammasome in the development of RA in Tamil Nadu population.

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AB0207 CALPROTECTIN (S100A8/9) PLASMA LEVELS DECREASE AFTER ABATACEPT THERAPY AND CORRELATE WITH DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Calprotectin (S100A8/9) is a damage-associated molecular pattern molecule that is involved in the early phase of tissue injury. It is found mainly in circulating neutrophils, monocytes and macrophages of rheumatoid arthritis (RA) synovial tissue where it acts as a chemoattractant and induces production of proinflammatory cytokines. Several studies have reported its association with clinical disease activity and radiographic damage in patients with RA.

Objectives: The aim of our study was to analyse the plasma levels of calprotectin in patients with established RA after the abatacept treatment compared with healthy individuals, and to examine their potential association with disease activity and treatment response.

Methods: The plasma levels of calprotectin were determined by ELISA (BÜHLMANN Laboratories AG) in 40 patients with established RA before and 3 months after initiation of abatacept treatment, and in 30 age–/sex-matched healthy subjects. Disease activity was evaluated by 28-joint Disease Activity Score (DAS28). The CRP levels and erythrocyte sedimentation rate (ESR) were determined by routine laboratory techniques. Data are presented as median ±IQR.

Results: Calprotectin levels at baseline were significantly higher in patients with established RA than in healthy individuals (1925 [741; 4093] vs. 506 [302; 754] p<0.0001; ng/ml). After 3 months of therapy, the levels significantly decreased (from 1925 [741; 4093] to 1569 [695; 3115] p=0.045; ng/ml). Calprotectin baseline levels significantly correlated with CRP, ESR and DAS28 at baseline (r=0.57, p=0.0003; r=0.56, p=0.0003; r=0.40, p=0.014, respectively), with change in DAS28 over 3 months (r=–0.54, p=0.001) and with change in CRP over 3, 6, 12 months (r=–0.56, p=0.0006; r=–0.61, p=0. 001; r=–0.71, p=0.0001, respectively). Calprotectin levels at month 3 significantly correlated with ESR at month 3 (r=0.43, p=0.013), CRP levels at month 3 and 6 (r=0.39, p=0.27 and r=0.43, p=0.024, respectively) and with change in CRP over 12 months (r=-0. 45, p=0.023). Change in calprotectin levels over 3 months correlated with the change in DAS28 over 3 months (r=0.39, p=0.028) and with change in CRP over 3, 6 and 12 months (r=0.48, p=0.004; r=0.38, p=0.028; r=0.60, p=0.0009, respectively).

Conclusions: We demonstrate here decrease in plasma levels of calprotectin after 3 months of abatacept therapy in patients with established RA, its association with disease activity and disease activity improvement over time.

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AB0208 UNFAVOURABLE CARDIOVASCULAR RISK PROFILE IN MALE PATIENTS WITH RHEUMATOID ARTHRITIS OF LOW DISEASE ACTIVITY

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Background: Rheumatoid arthritis (RA) is associated with the increased cardiovascular (CV) morbidity and mortality, mostly due to accelerating atherosclerosis. Both traditional and non-traditional factors seem to contribute to the excess of CV risk. Data in literature indicate a positive association between RA activity and the extent of CV disease (CVD) risk, suggesting a dominant effect of systemic inflammation. It is reported, that low disease activity is sufficient to achieve a protective effect against CVD and that atherosclerosis is not accelerated in RA of low activity or remission.

Objectives: The goal of the study was to assess CV parameters in female and male patients with RA of low disease activity in comparison with healthy controls.

Methods: The study was conducted in 70 patients with low RA activity, without known CVD (54 women, 16 men) and 33 healthy volunteers (18 women, 15 men). Patients underwent standard physical examination, assessment of disease activity in 28 joints (DAS28) and laboratory measurements including amino-terminal pro-brain natriuretic peptide (NT-proBNP). The following procedures were performed both in RA patients and controls: blood pressure (BP), carotid intima