females and Hb <130 g/L in males. Non-parametric analysis of variables was performed using Spearman's rank correlation with significance defined at a p-value <0.05.

Results: 63 patients were included in the analysis (63.5% (40) male, mean time to diagnosis 11.46 (± 9.04) years, 79.4% (50) HLA-B27 positive, 46% (29) current or ex-smokers). Blood parameters showed mean Hb of 139.6 (± 16.03) g/L, mean RDW of 13.55 (± 1.46) %, mean CRP of 5.23 (± 10.82) mg/L. Mean BASDAI score of cohort was 3.69 (± 2.02) and FACIT score 34.18 (± 11.30). Mean absolute interval time difference between a PROMs set and bloods of interest was 16.14 (± 41.11) days.

Univariate analysis showed a statistically significant, negative correlation between fatigue (FACIT) and disease activity (BASDAI), ($p < 0.001$; $r = -0.63$), but failed to demonstrate an association between fatigue and Hb, RDW, or CRP. Sub-group analysis of 51 patients, following exclusion of patients with anaemia (12), engendered a significant and moderately negative correlation between fatigue and RDW ($p = 0.02$, $r = -0.32$) (Figure 1), maintained a significant correlation between fatigue and BASDAI ($p < 0.0001$, $r = -0.56$) and showed a non-significant association between RDW and BASDAI ($p = 0.07$, $r = 0.25$).

Figure 1. Negative correlation between FACIT score and RDW

Conclusion: These findings suggest that RDW may potentially represent a surrogate marker of disease activity in patients with axSpA. RDW may also be implicated in the multi-faceted aetiology of fatigue in axSpA patients, and may reflect functional iron deficiency. A recent cohort study of axSpA patients found anti-TNF therapy ineffective at alleviating fatigue in nearly 80% of patients¹. Management of potential functional iron deficiency as reflected by RDW may offer an alternative treatment target for fatigue in these patients.

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AB0676

THE ROLE OF ACPA AND ANA IN SPONDYLOARTHRITIS: HOW THE AUTOIMMUNE DYSREGULATION CAN AFFECT THE COURSE OF DISEASE AND THERAPEUTIC SUCCESS OF MONOTHERAPY DMARDs AND bDMARDs

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Background: Occasional findings of anti-citrullinated-protein-antibodies (ACPA) and anti-nuclear-antibodies (ANA) were rarely described in literature on Psoriatic Arthritis (PsA) and on Spondyloarthritis (SpA) in general. How these autoimmune dysregulations can affect the course of them is not yet understood.

Objectives: The aim of our study is to evaluate if the presence of ACPA and ANA can determine different disease subsets and influence the DMARDs monotherapy (methotrexate) drug survival (DSM) and b-DMARDs multi-failure patients (MF).

Methods: We conducted a retrospective study on patients with Psoriatic Arthritis (PsA) and Spondyloarthritis that fulfilled the ASAS and CASPAR criteria. Patients with diagnosis of connective tissue disease and rheumatoid arthritis and patients ≤ 18 years old were excluded from the study. For each patient, the following variables were considered: age, ACPA, ANA, time between arthritis onset and start of DMARDs (start-time), DSM, switch to b-DMARDs (sw-bDMARDs), arthritis subset (oligoarticular (OA), polyarticular (PA), enthesitis (EA), axial involvement (AI)), number of comorbidities (NC), Charlson Comorbidity Index (CCI).

Results: 150 patients (55% with PsA and 45% with another SpA) were included in the study. No differences were found in age, ANA rate, ACPA rate, start-time, OA, PA, EA, AI, NC and CCI between the PsA and SpA groups.

In the whole group of patients, the ACPA+ subjects (11%) had a significant increase of NC (2.47 ± 1.5 vs 1.6 ± 1.4 , $p = 0.035$), a trend to higher CCI, to switch to b-DMARDs, and to be MF compared to those without ACPA. In the same group, the ANA+ patients (12%) showed shorter DSM (233.5 wk ± 45.9 vs 548.0 wk ± 56.8 , $p = 0.362$) with similar trend in each subgroup (PsA and SpA).

In SpA group, the ACPA+ patients (6.3%) had a trend to shorter DSM (269.0 weeks ± 125 vs 603.96 wk ± 92.8 , $p = 0.492$), to higher sw-bDMARDs, and to be MF, higher NC and CCI compared to those without ACPA. No differences in clinical subset (OA, PA, EA, AI) were observed. In the same group the ANA+ patients had significant higher rate of PA (100% vs 65%, $p = 0.026$) rather than OA (0% vs 35%, $p = 0.025$). No significant differences were found in NC, CCI, MF.

In the PsA group, ACPA+ patients showed a trend to develop PA and EA subsets, shorter DSM (187.5 wk ± 48.7 vs 299.6 wk ± 31.4 , $p = 0.415$), higher rate to sw-bDMARDs and to be MF. The ANA+ PsA patients had higher trend to develop PA and AI subsets rather than OA and EA. All ANA+ patients were MF (100% vs 42%, $p = 0.046$).

Conclusion: The ACPA and ANA positivity in PsA and SpA patients could be suggestive of more severe clinical disease manifestation, higher frequency of comorbidities and lower predicted 10-year survival (CCI). Moreover, this autoimmune dysregulation could be associated with worse drug survival in monotherapy with methotrexate and higher chance to be MF. Therefore, they can be taken into account for clinical management of these patients.

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AB0677

REVISING THE DEFINITION OF REACTIVE ARTHRITIS AND DIFFERENTIATION FROM UNDIFFERENTIATED SPONDYLOARTHRITIS

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Background: Reactive arthritis (ReA) is defined by 1999 ACR criteria as arthritis preceding a bacterial genitourinary (GUS) or gastrointestinal (GIS) infection in 3 days-6 weeks and evidence of triggering infection. Recently, ReA is classified as SpA and patients who do not fulfill SpA criteria are classified as undifferentiated spondyloarthritis (USpA) according to ASAS/EULAR SpA classification criteria.

Objectives: In several case reports which are associated with other infective agents are reported and the definition is extended for some clinicians so that SpA which is occurred after any infection is called as ReA. On the other hand, some researchers still accept the classical definition of ReA. The problem with the heterogeneity of opinions and unstandardized definition of ReA hinders studies about pathogenesis and standardization of treatments. In this study, we aimed to determine the spectrum of the use of the definition of reactive arthritis in publications in PubMed between 2009-2019.

Methods: The ReA keyword is searched in PubMed for the years between 2009-2019. 248 different publications have been identified and included in this research. 89 articles, 47 reviews, 108 case reports, 2 guidelines, and 2 editorials reviewed for the definition of ReA.

Results: Only 42.7% (106 patients) of these publications meet the classical definition which suggests ReA after only GIS and GUS infections. In 4 (1.6%) of the publications ReA was defined after GIS, GUS and oropharyngeal infections; in 3 (1.2%) of the publications after any bacterial infection; in 9 (3.6%) of the publications after any infection. In 8 (3.2%) of the publications, ReA and USPA was used correspondingly. In 39 (15.7%) of the publications the term agent related, ReA was used without making a general definition for ReA. 79 publications (31.9%) have not defined ReA.

According to causative agent and ReA relationship, in 64 (24.6%) general infective agents, in 75 (30.2%) classical agents, in 22 (8.9%) other bacterial agents, in 23 (9.3%) streptococcus, in 10 (4%) intravesical BCG, in 6 (2.4%) HIV, in 6 (2.4%) tuberculosis, in 12 (4.8%) clostridium difficile, in 2 (0.8%) parasites were

reported. In 31 (12.5%) of the publications the causative agent for the ReA was unknown, the diagnosis was made clinically.

Conclusion: In this study, it is aimed to draw attention terminology intricacy and the need for the standardization of the definition of ReA and USpA. It is clear that to standardize the definition of Rea and USpA is necessary. Between 2009-2019 there are reported cases diagnosed as ReA associated with bacterial infections (especially with *Clostridium difficile*, streptococcus and tuberculosis infections), and viral infections (by a majority with HIV), and parasitic infections. It is not clear if we need to define them classically or define them as USpA. Another important consideration is the necessity of extended laboratory investigations to find out the real causative agent even if the patient is clinically diagnosed with ReA. The requirement of the differentiation between ReA and USpA must be revealed for therapeutic researches.

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AB0678

RISK FACTORS FOR ADVERSE PREGNANCY OUTCOMES IN SPONDYLOARTHRITIS: DISEASE PHENOTYPE AND DISEASE ACTIVITY MAY PLAY A ROLE

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Background: Pregnant patients (pts) with spondyloarthritis (SpA) seem at increased risk for adverse pregnancy outcomes (APO), however limited and conflicting data have been published so far and risk factors for APO in these pts remain poorly understood.

Objectives: To assess APO and identify possible risk factors for those in a cohort of SpA pregnant pts.

Methods: Data on SpA pts prospectively-followed in a pregnancy clinic from 2010 to 2019 were retrospectively analysed before conception and during each trimester. Pregnancies complicated by APO were compared with those that were uneventful for demographic and clinical variables. Active disease was defined as a DAS-28-CRP > 3.2 or an ASDAS-CRP ≥ 2.1 according to peripheral or axial dominant disease respectively.

Results: 56 pregnancies (mean age 34±5 years; median disease duration 60 months, IQR 24-123) in 47 pts were analysed: 37 psoriatic arthritis, 7 axial SpA, 6 undifferentiated SpA, 3 enteropathic SpA, 2 reactive arthritis and 1 enthesitis-related juvenile idiopathic arthritis. APO were recorded in 23/56 (41%) pregnancies: 5 (9%) early miscarriages, 1 (2%) medical abortion (central nervous system malformation), 3 (5%) preterm births (≥34 gestational week, all for preterm premature rupture of membranes - PROM); 2 (4%) PROM; 7 (13%) small for gestational age newborns (SGA); 3 gestational diabetes and 2 cholestasis of pregnancy. Table 1 displays the comparison between pregnancies with and without APO. A higher number of pts with active disease were detected during the 2nd trimester in both groups, however differences between those were only significant at the 3rd trimester (p=0.03). History of inflammatory bowel symptoms (IBS) was also associated with an increased risk for APO (p=0.02). Although not reaching statistical significance, APO occurred more frequently in pts with a previous use of > 1 conventional synthetic (cs) or biological (b) disease-modifying antirheumatic drug (DMARD) (p=0.05), suggesting a more difficult to treat phenotype. Likewise, pts with APO were less often treated with low dose aspirin (LDA) during pregnancy.

Conclusion: SGA was the main APO recorded. History of IBS, a more difficult to treat phenotype and the presence of active disease during pregnancy influenced APO in this cohort, reinforcing the need for tight disease control before and during pregnancy. Larger and prospective data are warranted to confirm these results and to assess the potential protective role of LDA.

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Table 1. Differences between patients with and without APO

	Pregnancies with APO	Pregnancies without APO	p
N, %	23, 41.1	33, 58.9	
Maternal age at conception, mean±SD (years)	33.8±5	33.8±4.9	NS
Hx previous APO – N, %	4, 17.4	3, 9.1	NS
Disease duration, median (IQR), (months)	96 (36-132)	48 (24-96)	NS
Axial dominant disease – N, %	6, 26.1	6, 18.2	NS
Peripheral dominant disease – N, %	11, 47.8	20, 60.6	NS
Hx enthesitis – N, %	9, 39.1	13, 39.4	NS
Hx dactylitis – N, %	5, 21.7	11, 33.3	NS
Hx psoriasis – N, %	10, 43.5	18, 54.5	NS
Hx uveitis – N, %	1, 4.3	4, 12.1	NS
Hx inflammatory bowel symptoms – N, %	4, 17.4	0, 0	0.02
HLA-B27 – N, %	8, 34.8	7, 21.2	NS
>1 cs or bDMARDs before conception – N, %	13, 56.5	10, 30.3	0.05
LDA during pregnancy – N, %	7, 30.4	17, 51.5	NS
Active disease before conception – N, %	5, 21.7	2, 6.1	NS
Active disease 1 st trimester – N, %	1, 4.3	4, 12.1	NS
Active disease 2 nd trimester – N, %	6, 26.1	5, 15.2	NS
Active disease 3 rd trimester – N, %	3, 13	0, 0	0.03

Legend: Hx – history of; NS – non significant.

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AB0679

HEALTH ASSESSMENT IN FEMALE PATIENTS WITH SPONDYLOARTHRITIS: FOCUS ON REPRODUCTIVE SPHERE

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Background: SpA patients experience a decreased quality of life due to social, emotional and relational life impairment in addition to pain, fatigue and joint damage. Sexual dysfunction (SD) is often neglected by both patients and clinicians, although articular and extra-articular manifestations of the disease can decrease the quality of sexual life. Previous findings showed that SD can affect from 27% to 67% of patients with rheumatic diseases. Data available on SD in rheumatic patients are poor and primarily focus on male ankylosing spondylitis patients.

Objectives: The aim of this study is to evaluate, in a group of female SpA patients, the presence of SD, its relationship with extra-articular manifestations and to estimate the correlation between disease activity and sexual activity.

Methods: 52 SpA patients (including PsA, IBD-SpA and undifferentiated SpA-un-SpA) and 50 healthy controls (HC) were administered the Female Sexual Function Index (FSFI) questionnaire for the analysis of sexual function (score from 0 to 100). SD is defined by a score lower than 26. Disease activity was evaluated through DAPSA and BASDAI. SpA-HAQ and BASFI was also performed to assess functional status.

Results: There was a trend for a significantly greater proportion of SD in the patients (21%) than the controls (8%), $\chi^2(1, N = 102) = 3.52, p = .06$. Within the different groups, the percentage of those with SD according to the FSFI cut off were 23% of PsA patients, 25% of IBD-SpA patients, 11% of un-SpA patients, and 8% of healthy controls, however, when the patient groups were analysed separately these differences were not significant, $\chi^2(3, N = 102) = 4.43, p = .22$. Mean scores on the FSFI were lower for the total SpA patients group $t(100) = 2.47, p = .02$ compared to HC. When scores on the FSFI were analysed separately for each patient group, there was a trend for a significant difference between the groups, $F(3,98) = 2.43, p = .07$, and follow up t-tests showed that only the PsA group scored significantly lower than the HC, $t(100) = 2.56, p = .01$ (see Fig. 1). Among the items of the questionnaire, questions regarding sexual desire, lubrication and discomfort were statistically significantly lower scores in patients compared to HC ($p = 0.001, p = 0.009, p = 0.02$, respectively). For the overall patient group, the FSFI was significantly negatively correlated with the DAPSA ($r = -.37, p = .008$), the SpA-HAQ ($r = -.30, p = .03$) and the BASFI ($r = -.30, p = .03$). Additionally, the PsA group showed a negative correlation between DAPSA scores and FSFI score ($r = -.38, p = .03$) and the IBD-SpA group had a negative correlation between FSFI score and BASFI ($r = -.80, p = .002$).

Conclusion: Overall, the data generally show that SD is more common in SpA patients compared to HC and that SpA patients score lower on the FSFI. The negative correlations between the FSFI and scores on DAPSA, SpA-HAQ and BASFI suggest that sexual function may be poorer for patients with greater disease activity and poorer functional status. These findings could be due to the number of tender and/or swollen joints as well as chronic pain or fatigue patients