Background: Extra-articular manifestations (EAMs): psoriasis, uveitis and inflammatory bowel disease (IBD) are common in patients with established spondyloarthritis (SpA), with prevalences reported around 9%, 26% and 7 % respectively (1). However, data on the prevalence of EAMs are lacking in early axial SpA (axSpA).

Objectives: The aim was to assess the prevalence of EAMs in early axSpA in the published literature.

Methods: Systematic literature search on Pubmed MEDLINE up to 31.12.2019 with keywords referring to EAMs (*uveitis and synonyms, psoriasis and synonyms or IBD and synonyms*) and early axSpA (*recent, young adult, young, untreated, inception*) and selection by one reader of all full-text publications in English, describing the prevalence of at least one of the EAMs in patients with early axSpA, defined here as patients fulfilling ASAS, ESSG or Amor criteria and symptom duration of less than 6 years (as this was defined by authors as early disease). Patients' age, axSpA symptom duration, sex, HLA-B27 status, and number of patients with EAMs were recorded by one reader using a predefined extraction sheet. For longitudinal studies, baseline data was recorded. Description of patients was analysed using weighted means. Prevalences in each study according to symptom duration were graphically reported, and pooled prevalences were calculated by meta-analysis of proportions, using a random-effects model and the DerSimonian & Laird method to derive the summary estimate.

Results: Of 667 articles, 17 were relevant to the research question with prevalence data of psoriasis, uveitis and IBD available in 16, 17 and 15 articles, respectively (and most studies reporting several EAMs). Of the 17 articles, 14 were cohort studies and 3 were trials in early axSpA. A total of 2854 patients with early SpA was analyzed: weighted mean age 32.3±9.1 years (range 21-42 years), weighted mean axSpA symptom duration 20.7±11.1 months (range 8-68), 40.3 % were female, and 65.1% carried HLA-B27. The pooled prevalences of psoriasis, uveitis and IBD were respectively 8.9 % (95% CI 5.0, 13.8), 13.4% (95% CI 9.5, 17.8) and 3.5% (95% CI 1.7, 5.9) (Figure 1). There was a trend towards higher prevalences in patients with longer disease duration (Figure 2).

Figure 1. Meta-analysis of prevalence of each EAM

Figure 2. The prevalence of each EAM according to the symptom duration in early axSpA: axis: mean symptom duration (months). Y axis: prevalence (%) of an EAM. Diameter of bubbles is proportional to sample size of each article.

Conclusion: Over the first years of axSpA, EAMs are frequent, in particular psoriasis and uveitis, with prevalences up to 30% in some studies. Compared

to established axSpA, the EAM which was much less frequent was uveitis, which suggests the appearance of new cases over follow-up. Physicians need to screen carefully for EAMs right from the time of diagnosis, and need to repeat this screening over follow-up.

References:

- [1] Stolwijk C et al. Prevalence of extra-articular manifestations in patients with ankylosing spondylitis: a systematic review and meta-analysis. *Ann Rheum Dis*. 2015;74(1):65–73

Disclosure of Interests: Emre Bilgin: None declared, Umut Kalyoncu Consultant of: Abbvie, Amgen, Janssen, Lilly, Novartis, UCB, Laure Gossec Grant/research support from: Lilly, Mylan, Pfizer, Sandoz, Consultant of: AbbVie, Amgen, Biogen, Celgene, Janssen, Lilly, Novartis, Pfizer, Sandoz, Sanofi-Aventis, UCB
DOI: 10.1136/annrheumdis-2020-eular.3067

SAT0368 PREGNANCY IN WOMEN WITH SPONDYLOARTHRITIS: WHO ARE THE PATIENTS AT RISK OF DISEASE FLARE?

E. Crisafulli¹, A. R. Cruz-Machado², M. C. Gerardi¹, M. Filippini¹, M. Fredi¹, R. Gorla¹, M. G. Lazzaroni¹, C. Nalli¹, M. Taglietti¹, A. Lojcono³, C. Zanardini³, S. Zatti³, L. Andreoli¹, F. Franceschini¹, A. Tincani¹. ¹ASST Spedali Civili and University of Brescia, Rheumatology and Clinical Immunology Unit, Brescia, Italy; ²Hospital de Santa Maria, Serviço de Reumatologia e Doenças Ósseas Metabólicas, Lisboa, Portugal; ³ASST Spedali Civili and University of Brescia, Obstetrics and Gynaecology Unit, Brescia, Italy

Background: Patients with Spondyloarthritis (SpA) can experience flares during pregnancy and postpartum even though the available data are limited and not conclusive.

Objectives: To assess disease activity and treatment modification during pregnancy and postpartum in patients with SpA and to identify risk factors for disease flare.

Methods: Data on SpA pregnancies prospectively-followed in a pregnancy clinic from 2010 to 2019 were retrospectively analysed. Disease activity was assessed during each trimester and postpartum using ASDAS-CRP or DAS28-CRP. Flare was defined as an increase of disease activity leading to treatment modification (introduction or increase ≥5mg/day of prednisone, introduction of cDMARD or bDMARD)¹.

Results: Data on 50 pregnancies in 46 patients were collected (mean age at conception 33±4.7 years; median disease duration: 60 months (IQR 24-132); 33 psoriatic arthritis, 6 axialSpA, 2 reactive arthritis, 2 IBD-related SpA; 6 undifferentiated SpA, 1 juvenile idiopathic arthritis). Six pregnancies ended in miscarriage, so they weren't considered for the analysis of flares during pregnancy (table 1). Fifteen out of 44 (34%) pregnancies had at least one flare during pregnancy (6, 7 and 4 during 1st, 2nd and 3rd trimester respectively; 2 pregnancies had multiple flares). A higher rate of flare was observed in pregnancies of patients with axial involvement (p=0.01), on treatment with bDMARDs at preconceptional visit (p=0.03) and who stopped TNFi at positive pregnancy test (p=0.03). Peripheral involvement was associated with a lower rate of flares (p=0.02). Medications resumed during pregnancy were steroids (in 6 pregnancies), cDMARDs (2 sulfasalazine, 1 cyclosporine) and bDMARDs (4 certolizumab, 4 etanercept). During postpartum period flares were recorded in 46% of patients.

Table 1. clinical features, medication and disease activity in pregnancies with flare vs without flare

CLINICAL FEATURES	FLARE (15)	NO FLARE (29)	p
Axial involvement, n (%)	11/15 (73)	9/29 (31)	0.01
Peripheral arthritis, n (%)	8/15 (53)	26/29 (90)	0.02
Enthesitis, n (%)	5/15 (33)	14/29 (48)	ns
Dactylitis, n (%)	3/15 (20)	8/29 (28)	ns
Psoriasis, n (%)	6/15 (40)	17/29 (59)	ns
IBD, n (%)	2/15 (13)	0	ns
Uveitis, n (%)	1/15 (7)	3/29 (10)	ns
HLAB27 +	7/11 (64)	5/12 (42)	ns
MEDICATION HISTORY			
bDMARDs, n (%)	11/15 (73)	7/29 (24)	0.003
bDMARDs at preconception visit, n (%)	8/15 (53)	6/29 (21)	0.04
bDMARDs stopped at positive pregnancy test, n (%)	7/15 (47)	4/29 (14)	0.03
cDMARDs, n (%)	12/15 (80)	25/29 (86)	ns
DISEASE ACTIVITY			
ACTIVE DISEASE* preconception visit, n (%)	3/14 (21)	4/23 (17)	ns
ACTIVE DISEASE 1 st trimester, n (%)	6/15 (40)	1/29 (3)	0.004
ACTIVE DISEASE 2 nd trimester, n (%)	8/15 (47)	2/29 (7)	0.001
ACTIVE DISEASE 3 rd trimester, n (%)	2/15 (13)	1/29 (3)	ns

*DAS28-CRP>3.2 or ASDAS-CRP≥2.1

Conclusion: In our cohort of prospectively-followed SpA pregnancies, 34% experienced a flare during pregnancy and 46% during postpartum. Flares

occurred especially in those patients who discontinued TNFi early in pregnancy and with axial involvement. When resumed during pregnancy, TNFi was able to control the disease. At preconception counselling, the continuation of TNFi during pregnancy should be considered to ensure a better control of disease.

References:

[1] Fischer-Betz R et al. *Arthritis Rheumatol*. 2015; 67.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.4695

SAT0369

SPINAL RADIOGRAPHIC PROGRESSION IN EARLY SPONDYLOARTHRITIS: SIX-YEAR RESULTS FROM THE ESPERANZA COHORT

E. De Miguel¹, J. F. García Llorente², C. Urrego-Laurín³, M. L. García-Vivar⁴, C. Fernández-Carballido⁵, M. D. C. Castro Villegas⁶, B. Joven-Ibáñez⁷, X. Juanola-Roura⁷, C. Tornero¹, E. Galindez⁸ on behalf of Esperanza Working Group. ¹Hospital Universitario La Paz, Rheumatology, Madrid, Spain; ²Hospital de Galdakao, Rheumatology, Bilbao, Spain; ³Hospital Universitario Moncloa, Rheumatology, Madrid, Spain; ⁴Hospital Universitario Basurto, Rheumatology, Bilbao, Spain; ⁵Hospital Universitario Reina Sofía, Rheumatology, Madrid, Spain; ⁶Hospital Universitario Reina Sofía, Rheumatology, Córdoba, Spain; ⁷Hospital Universitario de Bellvitge, Rheumatology, Barcelona, Spain; ⁸Hospital Universitario de Basurto, Rheumatology, Bilbao, Spain

Background: There are few studies focused on the development of structural damage over time in patients with early SpA

Objectives: The aim of this study is to analyze the mSASSS radiographic progression of spine in patients with early spondyloarthritis (SpA) in the Esperanza cohort.

Methods: In this longitudinal study, 49 patients of the Spanish early spondyloarthritis (SpA) Esperanza cohort were included. Every patient had a baseline and a six years lateral X-Ray of the cervical and lumbar of spine. The assessment of spine structural damage was done by the modified Stoke Ankylosing Spondylitis Spine Score (mSASSS). Nine readers, blinded for the diagnosis, participated in the reliability exercise, all of them experienced rheumatologists and members of the Spanish spondyloarthritis working group (GRESER). The mSASSS progression and development of new syndesmophytes was analyzed. The gold standard of every elemental lesion of the mSASSS and the total mSASSS score was the agreement achieved by the independent categorical opinion of at least five of the nine readers. For reliability, intraclass correlation coefficient (ICC) two-way mixed, absolute agreement was used.

Results: Forty-nine patients were included, 69 % were males and 49%, HLA B27 positive. Mean $\pm$ SD baseline ESR, CRP, BASDAI, BASFI and mSASSS were 10.7 $\pm$ 11.7, 5.4 $\pm$ 7.1, 3.7 $\pm$ 2.5, 2.1 $\pm$ 2.0 and 0.326 $\pm$ 0.85, respectively. Inter-reader ICC reliability of the 9 readers was 0.812 (CI 95%; 0.764-0.857). The mSASSS score at the six-year visit was 0.67 $\pm$ 1.6: thirty-nine patients did not present any changes in this score at the end of the follow-up, two patients had Δ mSASSS of -1 and eight patients, an increase in this score (four patients, +1; three patients, +2 and one patient, +9 points).

At baseline, five patients presented one syndesmophyte; at the six-year visit, seven had one syndesmophyte; one patient, two syndesmophytes and another one, one bone bridge. Only 2/5 patients (40%) with syndesmophytes at baseline showed an increase in Δ mSASSS; the two patients with a Δ mSASSS of -1 did not have syndesmophytes at baseline. Five out of eight patients (62.5%) with an increase of the Δ mSASSS presented this lesion at the six-year visit but only two of them showed syndesmophytes at baseline. On the other hand, two of the three patients who showed an increase of the Δ mSASSS without syndesmophytes at baseline presented an erosion in the anterior vertebral corner and the patient with the bone bridge had a previous syndesmophyte. Our results indicate that in early SpA much of the progression appears in patients without previous syndesmophytes.

Conclusion: Spinal radiographic progression was very low in our early SpA cohort, with a mean progression of 0.3 mSASSS units. Only eight patients (16.3%) presented spinal structural progression, most of them not showing syndesmophytes at baseline. It is reasonable to consider that an early diagnosis and monitoring could result in a low radiographic progression.

Disclosure of Interests: Eugenio de Miguel Grant/research support from: Yes (Abbvie, Novartis, Pfizer), Consultant of: Yes (Abbvie, Novartis, Pfizer), Paid instructor for: yes (AbbVie, Novartis, Pfizer, MSD, BMS, UCB, Roche, Grunental, Janssen, Sanofi), Speakers bureau: yes (AbbVie, Novartis, Pfizer, MSD, BMS, UCB, Roche, Grunental, Janssen, Sanofi), Jose Francisco García Llorente: None declared, Claudia Urrego-Laurín: None declared, Maria Luz García-Vivar: None declared, Cristina Fernández-Carballido Consultant of: Yes, I have

received fees for scientific advice (Abbvie, Celgene, Janssen, Lilly and Novartis), Speakers bureau: Yes, I have received fees as a speaker (Abbvie, Celgene, Janssen, Lilly, MSD, Novartis), Maria del Carmen Castro Villegas: None declared, Beatriz Joven-Ibáñez Speakers bureau: Abbvie, Celgene, Janssen, Merck Sharp & Dohme, Novartis, Pfizer, Xavier Juanola-Roura: None declared, Carolina Tornero: None declared, E. Galindez: None declared

DOI: 10.1136/annrheumdis-2020-eular.5501

SAT0370

TUMOUR NECROSIS FACTOR INHIBITOR THERAPY DOES NOT REDUCE THE INCIDENCE OF COMORBIDITIES AND EXTRA-ARTICULAR MANIFESTATIONS IN ANKYLOSING SPONDYLITIS: AN ANALYSIS OF THREE US CLAIMS DATABASES

A. Deodhar¹, K. Winthrop¹, R. Bohn², B. Chan¹, R. Suruki², J. Stark³, H. Yun⁴, S. Siegel¹, L. Chen⁴, J. Curtis⁴. ¹Oregon Health & Science University, Portland, United States of America; ²UCB Pharma, Raleigh, United States of America; ³UCB Pharma, Smyrna, United States of America; ⁴University of Alabama at Birmingham, Birmingham, United States of America

Background: Comorbidities and extra-articular manifestations (EAMs) substantially increase disease burden and mortality risk in patients (pts) with ankylosing spondylitis (AS).^{1,2} Tumour necrosis factor inhibitors (TNFi) are highly efficacious and effective in AS treatment (tx), and are used after inadequate response to non-steroidal anti-inflammatory drugs.^{3,4} However, the impact of TNFi on the incidence of comorbidities and EAMs in pts with AS is unknown.⁵

Objectives: To determine the incidence of comorbidities and EAMs in TNFi vs non-TNFi treated pts with AS in the US.

Methods: This was a retrospective, observational cohort study using data from 3 healthcare insurance claims databases: Multi-Payer Claims Database (MPCD Optum Insight; 2007–2010), Truven MarketScan[®] (2010–2014) and US Medicare Fee-for-Service Claims database (2006–2014). Eligible pts: ≥ 20 years (yrs) for MarketScan/MPCD or ≥ 65 yrs for Medicare, had an AS diagnosis (≥ 2 International Classification of Disease, 9th version [ICD-9] diagnosis codes of 720.0 from a rheumatologist) and ≥ 12 months' continuous medical and pharmacy enrolment prior to AS diagnosis (AS index date). Pts with AS not receiving tx were excluded. Tx exposure was reported from the first date of a new prescription/administration of an AS tx (no prior exposure) after the AS index date. Crude incidence rates (IR; shown as cases/100 pt-yrs) were calculated for EAMs (uveitis, psoriasis [PSO], psoriatic arthritis [PsA], inflammatory bowel disease [IBD]), with follow-up until the earliest of: death, lost medical/pharmacy coverage, study period end, first outcome occurrence, tx switch/discontinuation. Hazard ratios (HRs) of comorbidities (hospitalised infection, solid cancers) and EAMs for propensity score (PS)-matched pt groups were calculated using Cox proportional hazard regression models. Pts with the specific comorbidity/EAM of interest prior to AS index date were excluded. PS analyses assessed probability of TNFi initiation vs non-TNFi tx and adjusted for factors including comorbidities and demographics. HRs with confidence intervals crossing 1 are not reported.

Results: 20,460 pts with AS were eligible (MPCD: 2,384; MarketScan: 9,032; Medicare: 9,044). In all databases, crude IR of EAMs were higher for TNFi vs non-TNFi treated pts (Figure 1). In the PS-matched cohort, incidences of hospitalised infections were lower in TNFi vs non-TNFi treated pts from the MarketScan and Medicare databases (Figure 2). Higher incidences of solid cancers and EAMs were observed in TNFi vs non-TNFi treated pts; Medicare data (Figure 2). A higher risk of PsA and PSO was seen in TNFi vs non-TNFi treated pts; MarketScan data (Figure 2). PS-matched cohort data from the MPCD database were non-significant.

Conclusion: Despite strong efficacy in treating AS-related signs and symptoms, similar incidence of comorbidities and increased incidence of some EAMs (IBD, PSO/PsA, uveitis) was seen in TNFi vs non-TNFi treated pts in the PS-matched analyses. This may be due to channelling of pts with more severe AS to receive TNFi, despite the PS-matched analysis aiming to overcome this. Moreover, prior medical history of Medicare pts may not be captured in the database, as pts are typically older with longer disease durations. While these results confirm previous findings,⁶ a prospective observational study is required to generalise to pts outside the US.

References:

- [1] Stolwijk C. *Ann Rheum Dis* 2015;74:1373–8;
- [2] Bremander A. *Arthritis Care Res* 2011;63:550–6;
- [3] Braun J. *Scand J Rheumatol* 2005;34:178–90;
- [4] Ji X. *Front Pharmacol* 2019;10:1476;
- [5] Maxwell LJ. *Cochrane Database Syst Rev* 2015;CD005468;
- [6] Walsh J. *J Pharm Health Serv Res* 2018;9:115–21.