Methods: A large international collaboration collected BASDAI, CRP, HLA-B27 status and sacroiliac joints (SIJ) and spine radiographs. These were read centrally by two blinded readers using consensus on the modified New York criteria, mSASSS and PASRI. AP spine radiographs were examined for symmetry (score difference ≥ 2 between sides) and morphology of syndesmophytes (typical marginal vs atypical chunky/non-marginal) were compared.

Results: Eight sites contributed 244 (25% HLA-B27+) PsA patients and 198 (75% HLA-B27+) AS patients. Mean BASDAI, mSASSS and PASRI were higher in AS. When categorised by diagnosis and HLA-B27 there were significant differences for age, sex, disease duration, mSASSS, PASRI and syndesmophyte symmetry. Regression analysis, with mSASSS and PASRI as dependent variables revealed significant associations with age, sex, duration of disease, and group (HLA-B27 and diagnosis).

Binary multivariate logistic regression was used to investigate associations of age, sex, HLA-B27 status, diagnosis (PsA v AS) and concomitant diabetes with radiographic features. Sacroiliac symmetry showed no significant associations, whilst syndesmophyte symmetry was associated with increasing age and HLA-B27 positivity. Typical marginal syndesmophytes were associated with age, HLA-B27 status and disease duration: in the cervical spine significant associations with age, sex and HLA-B27 status; in the lumbar spine with age, HLA-B27 and diagnosis. Atypical chunky syndesmophytes were associated only with increasing age and male sex.

Abstract OP0128 – Table 1

	Psoriatic arthritis		Ankylosing spondylitis		Statistic	p (2 way)
	B27- (n=184)	B27+ (n=60)	B27- (n=50)	B27+ (n=148)		
Age, y mean (sd)	55.3 (13.4)	50.5 (13.70)	48.5 (14.1)	48.5 (14.3)	7.7*	0.0001
Males n (%)	106 (58)	38 (63)	32 (64)	114 (77)	13.9+	0.003
Duration of disease, y mean (sd)	11.8 (10.3)	14.2 (11.0)	8.4 (9.5)	13.3 (12.3)	3.3*	0.02
Symmetry at SIJ n (%)	165 (90)	54 (90)	43 (86)	132 (89)	7.1+	Ns
Symmetry in spine n/N (%)	36/62 (58)	21/29 (72)	14/24 (58)	67/84 (80)	9.5+	0.02
Marginal syndesmophytes, n (%)	94 (51)	39 (65)	25 (50)	89 (60)	5.5+	Ns
Atypical syndesmophytes, n (%)	41 (22)	17 (28)	12 (24)	29 (20)	1.9+	Ns

* F statistic from one way analysis of variance. +chi squared statistic

Conclusions: This analysis suggests less difference in radiographic phenotype between AS and axial PsA than previously thought. HLA-B27 negative PsA patients have less severe disease as measured by mSASSS and PASRI with less typical marginal syndesmophytes and symmetry, whilst HLA-B27 positive PsA appears similar to AS.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1832

OP0129 DRUG SURVIVAL ON ANTI-TNF-ALPHA IN PSORIATIC ARTHRITIS PATIENTS WITH AXIAL INVOLVEMENT AND ANALYSIS OF PREDICTORS

S. Lopriore, F. Cacciapaglia, S. Perniola, M.G. Anelli, G. Lopalco, C. Scioscia, L. Coladonato, G. Laselva, G. Lapadula, F. Iannone. *Department of Emergency and Organ Transplantation (DETO), University of Bari, Rheumatology Unit, Bari, Italy*

Background: A few studies have focused on the clinical outcomes in predominant axial Psoriatic Arthritis (PsA) patients treated with anti-TNF- α agents¹⁻³ in real-life settings.

Objectives: Primary endpoint: to evaluate drug survival on anti-TNF- α agents in PsA patients with axial involvement or axial and either polyarticular or oligoarticular peripheral arthritis. Secondary endpoints: to evaluate the presence of any predictor of discontinuation of anti-TNF in PsA patients with axial involvement and to investigate whether peripheral arthritis may impact the discontinuation for ineffectiveness in patients with axial disease.

Methods: 415 biologic therapy-naïve PsA patients (CASPAR criteria) starting a first TNF-inhibitor from January 2010 to December 2016 were screened. Among these, 87 had axial involvement (ASAS criteria) with imaging arm (X-ray or MRI) and were enrolled: 40 with axial and polyarticular peripheral PsA (Axe +Poly PsA), 38 with axial and oligoarticular peripheral PsA (Axe +Oligo PsA) and 9 with only axial disease (Ax-PsA). At baseline and at last available visit or drug discontinuation, we collected age, gender, disease duration, BMI, HLA-B27, nail psoriasis and/or dactylitis, TJC, SJC, ESR, CRP, enthesitis, LEI, DAPSA, BASDAI, ASDAS-CRP, PASI, HAQ, intake of glucocorticoids and DMARDs, anti-TNF therapy discontinuation and reasons of discontinuation. Drug

survival was evaluated by Kaplan-Meier life table method, comparison of survival curves with Log-rank test and baseline predictors of drug discontinuation with Cox regression analysis.

Results: At baseline, Axe +Poly PsA patients had significantly higher peripheral (DAPSA) and axial disease activity (BASDAI, ASDAS-CRP). Stratifying patients by subset of disease, the median of treatment was 51 months (95% IQR 24.87–77.13) for Ax-PsA group, 50 months (95% IQR 28.39–71.61) for Axe +Oligo PsA group, 30 months (95% IQR 11.84–48.15) for Axe +Poly PsA group (figure 1). Axe +Oligo PsA patients had significantly higher persistence on TNFi rather than Axe +Poly PsA patients (log rank test, $p=0.03$). Axe +Poly PsA patients had higher risk of stopping TNFi (Cox regression, HR 3.75) and significantly higher percentage of discontinuation for ineffectiveness rather than for an adverse event (χ^2 test, $p=0.0009$). At last observation, Axe +Poly PsA patients had higher DAPSA but no difference in axial disease activity (t-STUDENT test, Mann-Whitney test).

Abstract OP0129 – Figure 1. Drug survival on TNF-inhibitor in Ax-PsA, Axe+Oligo-PsA and Axe+Poly-PsA patients (Kaplan-Meier life table method, log rank test)

Conclusions: PsA subsets seems to have different features, behaviour, clinical response and drug survival on TNF-inhibitors. Axe +Poly PsA subset seems to be more aggressive and difficult to treat. Anti-TNF- α blockers may perform differently in PsA: a more accurate analysis of the clinical disease subsets may improve our knowledge and better management of PsA in daily practice.

REFERENCES:

- [1] Lubrano E, et al. Clin Exp Rheumatol 2011 Jan-Feb;29(1):80–4.
- [2] Lubrano E, et al. J Rheumatol 2016 May;43(5):918–23.
- [3] Perrotta FM, et al. J Rheumatol 2016 Feb;43(2):350–5.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7093

OP0130 RISK OF CANCER IN PATIENTS WITH PSORIASIS/ PSORIATIC ARTHRITIS: A POPULATION-BASED STUDY IN THE PROVINCE OF BRITISH COLUMBIA

J.A Avina-Zubieta^{1,2}, A. Dominique³, T.A. Simon³, H. Tavakoli¹. ¹Arthritis Research Canada, Richmond; ²Faculty of Medicine, University of British Columbia, Vancouver, Canada; ³Bristol-Myers Squibb, Princeton, USA

Background: Psoriasis (PsO) is a relapsing chronic autoimmune disease of the skin. Up to one-third of patients (pts) also develop inflammatory arthritis, known as psoriatic arthritis (PsA). PsO/PsA, like other forms of chronic inflammatory arthritis, are often associated with complications such as cardiovascular disease and infections. However, data on the risk of cancer in pts with PsO/PsA at population level are limited.

Objectives: To assess the risk of cancer in pts with newly diagnosed PsO/PsA at the population level.

Methods: We created a population-based matched retrospective cohort of PsO/PsA pts diagnosed between 1 January 1997 and 31 December 2012 using administrative health data from British Columbia, Canada. We identified all incident cases of PsO/PsA and an equal number of controls matched on sex, age and calendar year. PsO/PsA cases met ≥ 1 of the following: 1 diagnostic code for PsO/PsA by a rheumatologist/dermatologist; ≥ 2 diagnostic codes for PsO/PsA, ≥ 2 months apart in a 2 year period by a non-rheumatologist/dermatologist; or ≥ 1 hospitalisation with diagnostic code for PsO/PsA. We evaluated incident cancers during follow-up from the Cancer Registry in both cohorts. Adjusted risk of cancers

was estimated using a generalised estimating equation extension of multivariate Poisson regression models.

Results: We identified 81 568 incident cases of PsO/PsA (mean age 48.5 years [SD 17.8], 51.5% female). Individuals with PsO/PsA were at significantly higher risk of being diagnosed with 8/41 types of cancer examined, including eye and orbit (4 fold), female genital (3 fold), non-melanoma skin (2 fold), prostate (males; 1.1 fold) (table 1). Incidence of rectal and colon cancer was lower among PsO/PsA pts relative to the non-PsO/PsA cohort (table 1).

Abstract OP0130 – Table 1. Incidence Rate (IR) and Incidence Rate Ratio (IRR) of Cancer Among PsO/PsA Pts Compared With the General Population

Outcome	PsO/ PsA events	Non- PsO/ PsA events	PsO/PsA follow-up (PY)	Non-PsO/ PsA follow-up (PY)	PsO/ PsA IR (per 100,000 PY)	Non- PsO/ PsA IR (per 100,000 PY)	IRR (95% CI)
Eye and orbit	13	<5	623,843.5	<5	2.08	-	4.25 (1.21–14.91)
Female genital other than cervix uteri, corpus uteri and ovary	55	21	623,625.8	611,542.1	8.81	3.43	2.57 (1.55–4.25)
Other urinary	31	16	623,818.6	611,585.4	4.97	2.62	1.90 (1.04–3.47)
Non-melanoma skin	401	217	621,233.8	610,223.9	64.54	35.56	1.82 (1.54–2.14)
Lung	705	589	622,877.2	610,834.8	113.18	96.42	1.17 (1.05–1.31)
Prostate	760	664	620,065.8	608,124.9	122.57	109.19	1.12 (1.01–1.25)
Melanoma	218	200	6 22 791	610,672.1	35.00	32.75	1.07 (0.88–1.29)
Colon	286	332	622,845.1	610,410.5	45.91	54.39	0.84 (0.72–0.99)
Rectum	157	194	623,196.9	610,811.7	25.19	31.76	0.79 (0.64–0.98)

PY=patient years

Conclusions: This general population-based study demonstrates that pts with PsO/PsA have an increased risk of several types of cancer, and a decreased risk of rectal and colon cancer. This association highlights the need to further explore potential risk factors and pathways that contribute to these complications.

Acknowledgements: This study received an unrestricted grant from Bristol-Myers Squibb for an investigator-initiated project in PsO/PsA.

Disclosure of Interest: J. A. Avina-Zubieta Grant/research support from: Bristol-Myers Squibb, A. Dominique Employee of: Bristol-Myers Squibb, T. Simon Employee of: Bristol-Myers Squibb, H. Tavakoli Grant/research support from: Bristol-Myers Squibb

DOI: 10.1136/annrheumdis-2018-eular.3772

OP0131 INNATE LYMPHOID CELLS CORRELATE WITH DISEASE ACTIVITY AND BONE REMODELLING IN PSORIATIC ARTHRITIS

A. Soare¹, S. Weber¹, L. Maul¹, S. Rauber¹, A.M. Gheorghiu², I. Houssni¹, A. Kleyer¹, M. Luber¹, J. Rech¹, G. Schett¹, J. Distler¹, A. Ramming¹. ¹Department of Internal Medicine 3, Rheumatology and Immunology, Friedrich-Alexander-University (FAU) Erlangen-Nürnberg, Erlangen, Germany; ²Dr. I. Cantacuzino Clinical Hospital, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Background: Evaluation of actual immunopathology in psoriatic arthritis (PsA) is challenging. Current composite measures approved for PsA are very useful tools to assess disease activity in clinical routine. Nonetheless, because of subjective patients' estimations that widely affect the scoring, in particular the distinction between remission and low disease activity is a common question of debate.

Innate lymphoid cells (ILC) subsets may couple different aspects of PsA disease activity.

Objectives: To address whether PsA is associated with an altered composition of innate lymphoid cells and whether such changes are associated with disease activity and structural damage in PsA.

Methods: 124 patients satisfying the Classification Criteria for Psoriatic Arthritis (CASPAR) and 26 healthy volunteers were enrolled in the study. Information regarding clinical features, laboratory parameters were collected and disease activity score 28 (DAS28), disease activity in psoriatic arthritis (DAPSA), minimal disease activity score (MDA) were calculated. MRI and high-resolution peripheral CT were taken and PsA MRI score (PsAMRIS) was assessed. Flow cytometric analysis was performed and IFN γ -producing ILC1s, IL-4/IL-5-producing ILC2s and IL-17/IL-22-producing ILC3s were identified among ILCs. Multivariate linear regression and Receiver-Operating Characteristic (ROC) Curve analysis was performed using the IBM SPSS Statistics software.

Results: Total number of circulating ILCs were increased in PsA patients compared to healthy controls ($p<0.001$). Linear regression analyses of the relationship between disease activity and circulating ILC counts showed that ILC2 negatively and ILC1 and ILC3 positively correlated with DAPSA score. The strongest correlation was observed when the ratio of ILC2 to ILC3 was analysed ($R=-0.5709$; $p<0.0001$). ILC2/3 ratio was also reduced in patients with active psoriatic skin disease, presence of enthesitis or a history of concomitant uveitis. Extend of synovitis or tenosynovitis or presence of bone erosions or osteophytes on MRI was inversely correlated with the ILC2/3 ratio ($R=-0.6753$; $p<0.0001$, $R=-0.5828$; $p=0.0011$ and $p<0.001$ respectively). Consistently, presence of erosions and/or osteoproliferation assessed by HR-pQCT was correlated with a significant lower ILC2/3 ratio. Furthermore, ROC Curve was used to test the performance of the ILC2/3 ratio as marker in differentiating between remission and disease activity of PsA. Indeed, a cut-off 0.57 exhibited highest sensitivity (92.9%) and a 84.7% specificity in identifying remission.

Conclusions: The ILC2/3 ratio correlates with various facets of PsA manifestations and might be a useful tool to evaluate disease activity in PsA patients.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7177

OP0132 STRUCTURAL AND MICROSTRUCTURAL INTRA-ARTICULAR BONE CHANGES AT THE METACARPAL HEADS IN PATIENTS WITH PSORIATIC ARTHRITIS COMPARED TO CONTROLS: A HR-pQCT STUDY

D. Wu¹, J.F. Griffith², S.H. Lam¹, P. Wong¹, J. Yue¹, L. Shi³, E.K. Li¹, I.T. Cheng¹, T.K. Li¹, T.Y. Zhu⁴, V.W. Hung⁴, L. Qin⁴, L.-S. Tam¹. ¹Department of Medicine and Therapeutics; ²Department of Imaging and Interventional Radiology; ³Research Center for Medical Image Computing, Department of Imaging and Interventional Radiology; ⁴Bone Quality and Health Center of the Department of Orthopedics and Traumatology, The Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, China

Background: Located inside the joint capsule,¹ the entire metacarpal head (MCH) is directly exposed to intra-articular inflammatory milieu in patients with psoriatic arthritis (PsA). We hypothesise that bone loss and new bone formation in the MCH will be more prominent in PsA compared to healthy controls.

Objectives: To investigate structural (bone erosion and enthesiophyte) and microstructural intra-articular bone changes in patients with PsA at the second and third MCH (MCH 2 and 3) compared with controls.

Methods: 139 subjects (77PsA, 62 control) underwent HR CT scanning at the MCH 2 and 3 and distal radius. 15 patients with joint destruction² were excluded from further analysis. An integrative CART-EBEE approach was developed to investigate the structural and microstructural bone changes. CART method (AB) was used to calculate volume of bone erosion and enthesiophyte [Crop of metacarpal bone(a,b); Automated segmentation of periosteal surface (c,e); Restoration of the missing cortical boundary based on anatomic curve(d,f); Three-dimensional calculation of volume(g)]; EBEE method was used to calculate volumetric bone mineral density (vBMD) and microstructure before and after exclusion of Bone Erosion (C) and Enthesiophyte (D).

Results: 62 patients with PsA and controls were comparable in age, gender and body mass index. PsA patients had a significantly increased number (mean $\pm$ SD/patient 2.4 $\pm$ 1.4 vs 1.3 $\pm$ 1.1, $p<0.001$) and total volume of enthesiophytes (8.75 $\pm$ 6.92 vs 4.36 $\pm$ 4.90 mm³, $p<0.001$); but a similar number of bone erosion (mean $\pm$ SD/patient 2.9 $\pm$ 1.2 vs 2.7 $\pm$ 1.4, $p=0.408$) and a trend suggestive of an increase in total volume of bone erosion (11.88 $\pm$ 7.82 vs 9.64 $\pm$ 5.96 mm³, $p=0.076$) per person compared with control. Depth of each individual bone erosion was greater in PsA than control; while no differences in the maximal height of each individual enthesiophyte was found between PsA and control. With regards to the microstructure, PsA showed a significantly decreased total vBMD, cortical vBMD (Ct.vBMD) and Ct. thickness at the distal radius; while a preferential bone loss at the trabecular (Tb.) compartment [Tb. vBMD; trabecular bone volume