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DOI: 10.1136/annrheumdis-2020-eular.948

AB0832 IDENTIFICATION OF NATIVE AND CITRULLINATED AUTOANTIBODIES TO PSORIASIS RELATED-ANTIGEN PSOP27 IN SYNOVIAL FLUIDS OF PATIENTS WITH PSORIATIC ARTHRITIS

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Background: Psoriatic arthritis (PsA) is an inflammatory joint disease. Unlike rheumatoid arthritis (RA), PsA is a "seronegative disease", with no diagnostic biomarkers, hence diagnosis is based on clinical evaluation alone. PsA is closely associated with psoriasis (PsO), with up to 1/3 of psoriatic patients developing PsA via unknown mechanism.

PsoP27 is an antigen present in mast cells in psoriatic lesions and absent in skin uninvolved by psoriasis or in healthy controls (1), thus playing a significant role in inflammatory reaction in the psoriatic skin lesion (2). Its levels in skin lesions correlate with psoriasis activity (3). Though speculated to be involved in other inflammatory processes, this antigen has not been investigated in relation to PsA.

Objectives: Our aim was to identify and determine the level of native and citrullinated PsoP27 antibodies (Ab) in serum and synovial fluid of patients with PsA compared to RA and osteoarthritis (OA), exploring a potential common inflammatory pathway in PsA and PsO.

Methods: Synovial fluid (SF) and serum of PsA (n=35, m:f 24:11, median age 48, PsA median duration 8Y, PsO median duration 15Y) and RA (n=11, m:f 2:9, median age 60, median RA duration 13.5Y) patients were analyzed for the level of native and citrullinated PsoP27 Ab. SF derived from OA (n=13, m:f 1:12,median age 77) patients and sera of healthy donors (n=31) were used as controls. Samples were analyzed by ELISA.

Results: SF levels of native and citrullinated PsoP27 Ab were significantly higher in PsA and RA compared to OA patients (Table 1).

Table 1. PsoP27 level (Optical density, OD) in SF of patients with psoriatic arthritis (PsA), rheumatoid arthritis (RA), and osteoarthritis (OA).

PsoP27 -SF			
	PsA	**RA**	**OA**
median	0.640	0.855	0.283
SD	0.298	0.286	0.28
P value (comp. to OA)	0.0082	0.0023	-
P value (comp. to RA)	0.0637	-	0.0023
Cit-PsoP27- SF			
median	0.766	0.982	0.378
SD	0.373	0.348	0.279
P value (comp. to OA)	0.003	0.001	-
P value (comp. to RA)	0.14	-	0.001

Significant correlation was observed between the SF levels of both forms of PsoP27 Ab and the swollen joints count (Native: *p=0.029, r=0.39*, Cit: *p=0.041, r=0.369*), psoriasis area and severity index (PASI) score (Native: *p=0.011, r=0.56*, Cit: *p=0.008, r=0.369*), and CRP levels (Native: *p=0.017, r=0.446*, Cit: *p=0.03, r=0.408*). In contrast, in RA patients there was no correlation between SF levels of PsoP27 Ab and the swollen joint count or CRP levels.

Both forms of PsoP27 Ab were detected in sera of all study groups, at a similar level (Table 2).

Table 2. PsoP27 level (OD) in sera of patients with psoriatic arthritis (PsA), rheumatoid arthritis (RA), and healthy controls (HC).

PsoP27- Serum			
	PsA	**RA**	**HC**
median	0.184	0.235	0.219
SD	0.137	0.097	0.141
P value (comp. to HC)	0.044	0.746	-
P value (comp. to RA)	0.055	-	0.746
Cit-PsoP27- Serum			
median	0.317	0.232	0.321
SD	0.298	0.143	0.160
P value (comp. to HC)	0.767	0.076	-
P value (comp. to RA)	0.044	-	0.076

Conclusion: We determined for the first time the presence of antibodies to psoriatic-related autoantigen PsoP27, in SF of PsA, RA and OA patients. Low SF level of PsoP27 Ab in OA compared to a high Ab level in RA and PsA may suggest a potential new biomarker discriminating between inflammatory arthritis versus OA. Furthermore, we showed a positive correlation between the SF levels of antibodies to PsoP27 in SF and disease activity in PsA, but not in RA. Also, we demonstrated the presence of citrullination and antibodies against citrullinated peptides in PsA, a process thought to be specific to RA. Our results suggest that antibodies to PsoP27 in SF may be a potential biomarker in PsA, both for diagnosis and disease assessment.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.3698

AB0833 COMORBIDITY IN PSORIATIC ARTHRITIS WITH AND WITHOUT ENTHESITIS

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Background: Psoriatic arthritis (PsA) is a chronic systemic inflammatory disease associated with psoriasis and high levels of comorbidity. There is no data on comorbidity in PsA with and without enthesitis.

Objectives: Evaluation of the frequency and the structure of comorbidity in PsA patients with and without enthesitis.

Methods: A retrospective analysis of 239 case histories of PsA patients observed at the Moscow City Rheumatology Center was performed. There were 68 (28.5%) PsA patients with enthesitis and 171 (71.5%) patients without enthesitis. The study included 132 female and 107 male patients, mean age was 52.0 ± 14.8 years. 217 patients (90.8%) had psoriasis. The average psoriasis duration was 19 ± 14.3 years. The diagnosis of PsA was established based on CASPAR criteria (2006).

Results: Comorbid diseases were observed in 141 (59%) patients with PsA. Moreover, in the group of PsA patients with enthesitis, comorbidity was noted much more often compared to the group without enthesitis (70.6% and 54.4%, respectively, p = 0.01). The most common comorbid diseases were: arterial hypertension (25%), gastropathy (16.2%), osteoporosis (13.2%), osteoarthritis (11.8%), diabetes mellitus (11.8%), hyperuricemia (10, 3%), obesity (8.8%). A distinctive feature of PsA patients with enthesitis was a more frequent detection of osteoporosis (13.2% and 5.8%, respectively, p = 0.01), which may be due to concomitant osteitis.

Conclusion: High rates of comorbidity were found in PsA patients with enthesitis (70,6%). The most prevalent comorbid diseases were arterial hypertension (25%), gastropathy (16.2%) and osteoporosis (13.2%). Patients with PsA with enthesitis were significantly more likely to have osteoporosis compared with patients without enthesitis, which is important to consider when managing patients.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.1396

AB0834 CLINICAL CHARACTERISTICS OF PSORIATIC ARTHRITIS IN CHINESE PATIENTS: A CROSS-SECTIONAL OBSERVATIONAL STUDY

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Background: The clnical features of psoriatic arthritis(PsA)greatly varied in reports fomr different countries.There was no exact data in China.

Objectives: To disclose the characteristics of PsA in China, we initiated an investigation it in our cohort of PsA patients.

Methods: A cross-sectional observational study was conducted in our PsA cohort of Peking University First Hospital. All the clinical and imaging data at the patient's first visit were collected, including the age, gender, disease course,

skin lesion, arthritis, dactylitis, enthesis, laboratory tests, concomitant diseases and so on.

Results: Two hundred and seventy-nine patients with PsA were enrolled in this study. Their mean age was 41 year-old with 132 (47.3%) female. Median disease duration was 3 years. Among these patients, 196(73.4%)patients had the skin lesion first, 47 (17.6%)patients had the arthritis first, and the other 24(9.0%) patients had the psoriasis and the arthritis at the same time. Arthritis was the most common manifestation. Polyarthritis was the most common arthritic manifestation with proximal interphalangeal (PIP) joint as the most frequently involved joint. Dactylitis was observed in 89 (31.9%) patients, mostly at the second, third and fourth toe. Enthesis was found in 18 (6.5%) patients by physical examination, however, in 158 (56.5%) patients with the aid of ultrasound and MRI.

Conclusion: Polyarthritis was the most common arthritis type in Chinese PsA patients, and PIP joint was the most involved joint, and the second, the middle and the fourth toe were the most frequently digits. The imaging techniques, especially ultrasound dramatically increased the identification of enthesis.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.5921

AB0835

THE IMPACT OF ADALIMUMAB VS PLACEBO ON PATIENT-REPORTED OUTCOMES AND UTILITY MEASURES AMONG PATIENTS WITH MODERATELY TO SEVERELY ACTIVE PSORIATIC ARTHRITIS

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Background: Physical function and health-related quality of life(HRQoL) are negatively impacted in patients(pts) with PsA. Treatment with conventional and biological (b) DMARDs improved patient-reported outcomes(PROs).

Objectives: To assess impact of adalimumab(ADA) vs placebo(PBO) on PROs following 12-week (wk) treatment.

Methods: Pts(n=315) with moderately to severely active PsA and bDMARD naive were randomized to ADA 40mg or PBO every other wk. We assessed PROs at baseline(BL) and wk 12 using the 36-item Short-Form(SF-36) Health Survey physical(PCS) and mental component summary(MCS) scores, 8 domain scores ranging from 0(worst) to 100(best), and SF-6D utility measure derived from all 8 SF-36 domains with scores ranging from 0.296(worst) to 1.00(full health) and minimally important difference(MID) of 0.041. Patient Global Assessment of disease activity(PtGA) and pain(both utilizing 100 mm visual analog scale[VAS]) and HAQ disability index(DI) were assessed. Mean changes from BL, percentages of pts with improvements ≥minimum clinically important differences(MCID), and scores ≥US age-and gender-matched normative values(A/G norms) were analyzed, based on as observed data. *P* values were assessed by analysis of variance model for continuous variables and *Cochran–Mantel–Haenszel* test for binary outcomes, adjusting by baseline MTX use and extent of psoriasis. Numbers needed to treat(NNTs) are reported using proportions of pts reporting improvements ≥MCID in SF-36, PtGA, pain, and HAQ-DI.

Results: BL PRO scores were similar between ADA(n=151) and PBO(n=162; **Table 1**). Improvements from BL at wk 12 with ADA vs PBO were significant in PtGA, pain, HAQ-DI, and SF-36 PCS(change: 9.3 vs 1.4; $P<0.001$) but not in SF-36 MCS(1.6 vs 1.2; **Table 1**). Six of 8 SF-36 domains significantly improved from BL to wk 12 with ADA vs PBO(all $P\leq0.05$; **Table 1** and **Figure 1**). SF-6D improvements exceeded MID with ADA(change: 0.071) vs PBO(0.018). Proportions of pts reporting improvements ≥MCID at wk 12 were significantly greater with ADA vs PBO in all PROs, except SF-36 role emotional and mental health domains, with corresponding NNTs ≤6.4(**Figure 2**). Proportions of pts who reported scores ≥A/G norms in HAQ-DI, SF-36 PCS, and 6 of 8 SF-36 domains were significantly greater with ADA vs PBO(**Figure 2**).

Table 1. Mean Disease Characteristics and SF-36 Domain Scores by Treatment Group at Baseline and Wk 12 Compared With Age-and Gender-Matched Normative Values

	ADA 40 mg eow		PBO		A/G norms
	Baseline	Week 12 [change from baseline to week 12]	Baseline	Week 12 [change from baseline to week 12]	
SF-36 PCS	33.2	42.5[9.3**]	33.3	34.7[1.4]	≥50
SF-36 MCS	48.1	49.8[1.6]	46.6	48.4[1.2]	≥50
SF-6D	0.653	0.724[0.071]	0.641	0.659[0.018]	—
PtGA	47.1	25.9[–21.7**]	48.1	47.5[0.2]	—
Pt pain	51.1	26.8[–24.1**]	48.8	49.1[1.3]	—
HAQ-DI	1.0	0.6[–0.4**]	1.0	0.9[–0.1]	≤0.25
	Baseline (vs A/G norms)	Week 12 (vs A/G norms)	Baseline (vs A/G norms)	Week 12 (vs A/G norms)	
Physical Functioning	50.8(–31.5)	65.9***(–16.4)	48.2(–34.1)	52.0(–30.3)	82.3
Role Physical	37.1(–45.9)	65.9***(–17.1)	32.6(–50.4)	40.6(–42.4)	83.0
Bodily Pain	41.3(–31.6)	61.0***(–11.9)	40.2(–32.7)	43.7(–29.2)	72.9
General Health	49.5(–20.8)	62.1***(–8.2)	52.1(–18.2)	53.0(–17.3)	70.3
Vitality	41.4(–17.8)	55.1***(–4.1)	41.6(–17.6)	45.0(–14.2)	59.2
Social Functioning	66.3(–19.0)	77.8†(–7.5)	61.7(–23.6)	66.7(–18.6)	85.3
Role Emotional	65.1(–23.4)	70.4(–18.1)	59.1(–29.4)	66.0(–22.5)	88.5
Mental Health	67.6(–8.5)	72.9(–3.2)	64.9(–11.2)	67.3(–8.8)	76.1

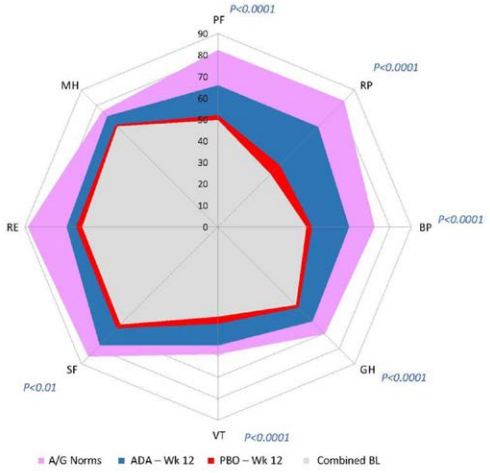
ADA, adalimumab; A/G norm, age-and gender-matched normative value; eow, every other week; DI, disability index; MCS, mental component summary; MID, minimally important difference; PBO, placebo; PCS, physical component summary; PtGA, Patient Global Assessment of disease activity; SF-36, 36-item Short-Form Health Survey; SF-6D, Short-Form 6D.

SF-6D MID=0.041.

Statistical analysis ADA vs PBO: †$P<0.05$; *$P<0.01$; **$P<0.001$; ***$P<0.0001$.

Conclusion: Statistically significant and clinically meaningful improvements and scores ≥A/G norms(higher definition of response) at week 12 were reported with ADA vs PBO in pts with moderately to severely active PsA.

Figure 1. Spydergram of Mean Changes in SF-36 Domain Scores at Week 12: ADA vs PBO vs Age- and Gender-Matched Normative Scores



ADA, adalimumab; A/G norm, age- and gender-matched normative value; BL, baseline; BP, bodily pain; GH, general health; MH, mental health; PBO, placebo; PF, physical functioning; RE, role emotional; RP, role physical; SF, social functioning; SF-36, 36-item Short-Form Health Survey VT, vitality.