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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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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.

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AB0834

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

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

Objectives: To disclose the characteristics of PsA in China, we initiated an investigation 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,