PsP27 is an antigen present in mast cells in psoriatic lesions and absent in skin unin-
involved by psoriasis or in healthy controls (1), thus playing a significant role in in-
flammatory reaction in the psoriatic skin lesion (2). Its levels in skin lesions cor-
relate with psoriasis activity (3). Though speculated to be involved in other inflam-
matory processes, this antigen has not been investigated in relation to PsA.

Objectives: Our aim was to identify and determine the level of native and citrul-
linated PsP27 antibodies (Ab) in serum and synovial fluid of patients with PsA
compared to RA and osteoarthritis (OA), exploring a potential common inflam-
atory pathway in PsA and PO.

Methods: Synovial fluid (SF) and serum of PsA (n=35, m:f 24:11, median age 48, PsA median duration by 8, PsO median duration 15Y) and RA (n=11, m:2.9, median age 60, median RA duration 13.5Y) patients were analyzed for
the level of native and citrullinated PsP27 Ab. SF derived from OA(n=13, m: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 PsP27 Ab were significantly higher
in PsA and RA compared to OA patients (Table 1).

Table 1. PsP27 level (Optical density, OD) in SF of patients with psori-
atic arthritis (PsA), rheumatoid arthritis (RA), and osteoarthritis (OA).

<table>
<thead>
<tr>
<th>PsP27:SF</th>
<th>PsA</th>
<th>RA</th>
<th>OA</th>
</tr>
</thead>
<tbody>
<tr>
<td>median</td>
<td>0.640</td>
<td>0.855</td>
<td>0.283</td>
</tr>
<tr>
<td>SD</td>
<td>0.298</td>
<td>0.286</td>
<td>0.28</td>
</tr>
<tr>
<td>P value</td>
<td>0.0082</td>
<td>0.0023</td>
<td>-</td>
</tr>
<tr>
<td>P value (comp. to RA)</td>
<td>0.0037</td>
<td>-</td>
<td>0.0023</td>
</tr>
</tbody>
</table>

Conclusion: We determined for the first time the presence of antibodies to
psoriatic-related autoantigen PsP27 in SF of PsA, RA and OA patients. Low SF level of PsP27 Ab in OA compared to a high Ab level in RA and
PsA may suggest a potential new biomarker discriminating between inflam-
matory arthritis versus OA. Furthermore, we showed a positive correlation
between the SF levels of antibodies to PsP27 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 PsP27 in
SF may be a potential biomarker in PsA, both for diagnosis and disease assessment.

References:

Disclosure of Interests: None declared

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