Absence of human parvovirus B19 DNA in myoepithelial sialadenitis of primary Sjögren’s syndrome

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Comparison of the deduced amino acid sequences of the CDR3 region with antibodies of known specificity reported in a database, showed in six cases a high similarity between VH and VDJ antibody sequences of known specificity reported in a database. This suggests that RF producing cells have a role in SS pathogenetic events, as recently confirmed by Martin et al.

Because human parvovirus B19 is a common DNA virus, present in 30-60% of the population positive to B19 antibodies, which infects not only erythrocytes and erythroblasts but also megakaryocytes, endothelial and epithelial cells and is possibly involved in several autoimmune diseases, we searched for B19 genomes in tissues affected by SS. This process resembles a germinal centre reaction, in which B cells that express the antigen receptor with the highest affinity for the stimulatory antigen are selected, giving rise to the oligoclonal/monoclonal population seen in the advanced phases of the disease.

We recently analysed seven monoclonal lymphoproliferations from six patients with primary SS according to the European Criteria of 1993; (one patient with SS showed a different monoclonal B cell population in two subsequent parotid specimens). DNA was extracted from frozen parotid biopsy specimens, and a B cell monoclonal expansion was verified by the VDJ protocol of amplification. The immunoglobulin antigen receptor (IgR) variable region genes and third complementarity determining region segments (CDR3), which mainly contribute to the antigenic specificity of the IgR, were sequenced.

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11 Herranz Marin MT, Jiménez-Alonso J, Delgado Rodríguez M, Omar M, Rivero-Civico F, Mar-Armada M, et al. Malignant lymphoid proliferations in SS tissue, they may undergo polyclonal and oligoclonal/monoclonal expansion, which may, in turn, predispose them to a still unidentified B cell neoplastic transformation. The process of B cell activation and expansion is presumably a consequence of a chronic, although at present unidentified, antigenic stimulus that activates specific subsets of B lymphocytes. This process resembles a germinal centre reaction, in which B cells that express the antigen receptor with the highest affinity for the stimulatory antigen are selected, giving rise to the oligoclonal/monoclonal population seen in the advanced phases of the disease.
ACKNOWLEDGEMENTS

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Table 1

<table>
<thead>
<tr>
<th>Cases</th>
<th>Most similar VH or VK germline segments</th>
<th>VH-CDR3 or VK-CDR3 deduced amino acid sequences</th>
<th>Protein sequence with known specificity producing a high significant similarity</th>
<th>E Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>VH</td>
<td>1 V4.59; D2.15; J2</td>
<td>DRYCSGGSCFDWYFD</td>
<td>(U85234) rheumatoid factor</td>
<td>6e-08</td>
</tr>
<tr>
<td></td>
<td>2 V3.7; D3.22; J3</td>
<td>GDYDSSDYIDAFDI</td>
<td>(U03400) rheumatoid factor</td>
<td>0.48</td>
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<tr>
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<td>3 V4.59; D2.15; J2</td>
<td>DRYCSGGSCFDWYFD</td>
<td>(U85234) rheumatoid factor</td>
<td>8e-08</td>
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<tr>
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<td>4 V3.11; D3.22; J3</td>
<td>GDYDSSDYIDAFDI</td>
<td>(U85242) rheumatoid factor</td>
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<td></td>
<td>5 V3.7; D1.20; J1</td>
<td>DLRPERSDAFDI</td>
<td>(AF092498) antibody against parvovirus B19</td>
<td>0.025</td>
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<td>6 V1.8; D7.27; J6</td>
<td>APSWATNYVYGMV</td>
<td>(AA858433) rheumatoid factor</td>
<td>6e-04</td>
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<td></td>
<td>7 V1.69; D5.18; J4</td>
<td>EGHKDTMVPFDY</td>
<td>(I19288) rheumatoid factor</td>
<td>3e-06</td>
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</tbody>
</table>

*Smallest sum probability according to BLAST similarity search programme. The E value is inversely correlated with statistical significance.

REFERENCES


