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Drs. Rasmussen and Scofield reply

To the Editor:

The cardinal laboratory/pathological features of Sjögren syndrome (SS) are autoantibodies (anti-Ro/SSA and anti-La/SSB) and lymphocytic infiltrate of the salivary glands. The lymphocytic infiltrate is graded by the focus score (FS) [1, 2], which is the number of foci with ≥ 50 lymphocytes per 4 mm². Much has been published about the clinical and laboratory differences found among Sjögren patients with and without autoantibodies, with the presence of anti-Ro generally associated with more severe disease[2,3]. However, comparatively few studies have been directed at subjects without a salivary gland lymphocytic infiltrate.

Both we[4] and Carubbi, *et al*[5] have compared primary SS patients with an FS of zero (FS = 0) to those patients with a FS ≥ 1. As noted by Carubbi and Alunno[6], these 2 studies have fundamental differences. Ours is a cross-sectional study at the time of minor salivary gland biopsy[4], while the other is a retrospective, longitudinal study of patients who had undergone such a biopsy in the past and an average follow-up of almost 6 years[5]. Thus, the results are likely to be different but complementary. This is, in fact, what we find when reviewing the results of these studies.

However, there is major difference in the analyses. Because of the many clinical associations of anti-Ro with disease features[3], we controlled for the role of anti-Ro by comparing FS = 0 subjects (who must be anti-Ro+ to meet pSS classification) to FS ≥ 1/anti-Ro+ subjects. Nonetheless, the comparisons made by Carubbi, *et al* both in their original publication[5] and in the current letter[6], are also of interest. These investigators compared FS = 0 subjects to all subjects with FS ≥ 1, regardless of antibody status. Thus, we have reanalyzed our subjects in a similar manner to the Carubbi, *et al* study[5]. First, we compared FS ≥ 1/anti-Ro+ to FS ≥ 1/anti-Ro−, and found that the anti-Ro+ subjects had worse ocular staining (70.2% vs 60.4%, P = 0.0005 by chi-square analysis, OR 2.19 (95% CI 1.4–3.4), a higher mean FS (4.55 vs 2.65, P < 0.0001 by unpaired t test), but less subjective dryness by the European League Against Rheumatism (EULAR) SS Patient Reported Index (5.85 vs 7.01, P = 0.0075 by unpaired t test). Examining the EULAR SS Disease Activity Index (ESSDAI), the biological domain was more likely to be positive in anti-Ro+ subjects (63.9% vs 43.8%, P = 0.001, OR 2.1, 95% CI 1.4–3.2) and this was driven by hypergammaglobulinemia (25.3% vs 3.74%, P < 0.0001, OR 8.73, 95% CI 2.8–24.3).

When we compared all FS = 0 to all FS ≥ 1 subjects, irrespective of their anti-Ro status, we continued to find more abnormal ocular staining among those with a positive FS (65.2% vs 49.3%, P = 0.012, OR 1.9, 95% CI 1.2–3.2), as well as a higher incidence of an abnormal Schirmer test (50.1% vs 41.3%, P < 0.0001, OR 5.15, 95% CI 2.4–10.4). Thus, objective ocular dryness was less common among those without a lymphocytic infiltrate in the minor salivary glands independent of the presence of anti-Ro. Meanwhile, there was no difference in the ESSDAI biological domain (P = 0.74), supporting previous findings that hypergammaglobulinemia is strongly linked to anti-Ro positivity[2,3].

These 2 studies support the notion that there are various subgroups of patients with SS; those that have mainly an autoantibody-driven disease, a second group with active cellular infiltration of target tissues, and a third subset with both lymphocytic glandular infiltration and autoantibodies. Likely, some of the underlying disease mechanisms differ as well — a consideration that may prove relevant for therapeutic choices as well as studies.

The challenges of studying SS are demonstrated in these 2 studies[4,5]. SS is one of few, if not the only, inflammatory rheumatic disease in which there is easy access to the affected organ; therefore, studies with full sets of data including biopsies are critically important but also difficult to assemble. A prospective inception cohort study has not been reported. So, for now cross-sectional and retrospective studies remain the standard.

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