SJÖGREN’S SYNDROME (SS): ARE INCREASED SERUM LEVELS OF CYTOKINE FMS-LIKE TYROSINE KINASE 3 LIGAND (FLT3L) INDICATIVE OF LYMPHOMA?

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Background Flt3L, which is involved in the ontogenesis of B cells (particularly in their malignant proliferation in pSS) might contribute to the absolute excess of activated Bm2/Bm2’ in the PB pattern of these patients.

Objectives Our aims were threefold: (1) Compare the serum levels of FL of 64 Sjögren’s syndrome (SS) patients with those of 20 healthy controls (HCs). (2) Quantify B cell expression of this ligand and its receptor Flt3 in the PB and the salivary glands (SGs) of patients. (3) And evaluate the effect of FL-treated B cells on SGs by co-culture of these circulating B cells with human SG (HSG) epithelial cell line cells.

Results (1) There were more serum FL in SS patients that in HCs (135.8±5.5 vs 64.4±4.5 pg/ml, p<0.001), their levels correlated with the clinical activity of the disease and with the proportions of Bm2/Bm2’ in the PB (r=50, p<0.001). (2) Furthermore, Flt3 was selectively expressed in these circulating B cell subsets. With regard to the SGs, B cells expressed Flt3, while epithelial cells produced FL. (3) Finally, co-cultures revealed that Flt3 potentiated the B cell receptor-induced proliferation of B lymphocytes, and the HSG-mediated survival of B cells was abrogated by anti-FL and/or anti-Flt3 antibodies.

Conclusion The pSS patients increase their serum levels of FL, relative to the excess of Bm2/Bm2’ in their PB. By supporting the proliferation of B cells, FL favours the development of B cell lymphoma in SS.