Background: Primary Sjögren’s Syndrome (PSS) is a common autoimmune disease of unknown aetiology. It is characterised by inflammatory infiltration of exocrine glands, development of sicca syndrome and a 20-fold increase in the risk of developing lymphoma. Standard pathological evaluation is based on a lymphocytic ‘focus score’ but little is known about the composition of the lymphoid infiltrate or its relationship to disease markers such as autoantibodies and the risk of lymphoma.

Objectives: The aim of the study was to use flow cytometry to characterise the lymphoid infiltrate in more detail.

Methods: Salivary glands were collected from 103 subjects attended the Newcastle Sjögren’s clinic who had undergone minor salivary gland biopsy as part of the diagnostic investigations which also include testing for anti-SSA/SSB antibodies, Schirmer’s tests and unstimulated oral salivary flow. 70 with confirmed PSS, 15 with potential or early-stage PSS and 18 with non-SS. Salivary glands were digested in collagenase for 3 hours and sort-analysed using a BD Biosciences FACSFusion flow cytometer. Sorted cells from 6 patients were Giemsa stained to observe cell morphology. All subjects have given their written informed consent according to the principles of Helsinki and the project has received local REC approval.

Results: Salivary glands contain multiple lymphoid populations including CD19+ B cells, CD19+CD38+ plasmablasts, CD19-CD38+ plasma cells, and predominately central memory CD4+ and CD8+ T cells. The focus score is associated with an increase in the total number of lymphocytes of up to 10-fold. In particular there is a striking increase CD19-CD38+ cells with restricted kappa light chain expression associated with the most advanced cases. By morphology these cells have the appearance of plasma cells with frequent Russell bodies and occasional binucleated forms.

Conclusion: Flow cytometry of dispersed salivary gland demonstrates and associates between lymphoid cells and the focus score in PSS patients. The dominant B cell population in PSS salivary gland is a CD19-negative tissue plasma cell with reciprocal expression of kappa light chain restriction in advanced disease.

Disclosure of Interests: Paul Milne: None declared, Anastasia Resteau: None declared, Aleksandra Ivovic: None declared, Emmanuella Traianos: None declared, David Storey: None declared, Jessica Tarn: None declared, Richard Siegel: Employee of: Novartis; Wan Fai Ng: None declared, Matthew Collin: None declared


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diffuse systemic lupus erythematosus (SLE).

Background: Paediatric systemic lupus erythematosus (pSLE) is an autoimmune disorder of childhood characterized by the production of autoantibodies against nuclear antigens. In the last decade, several studies showed an up-regulation of genes induced by type I interferons (IFN) in peripheral blood and tissues of pSLE patients. It has been reported that the expression of this group of genes, known as the type I IFN signature, correlates with disease activity.

Objectives: To investigate the role of IFN in the pathogenesis of pSLE and to correlate IFN expression with biological parameters of renal disease activity.

Methods: Salivary glands were collected from 103 subjects attended the Newcastle Sjögren’s clinic who had undergone minor salivary gland biopsy as part of the diagnostic investigations which also include testing for anti-SSA/SSB antibodies, Schirmer’s tests and unstimulated oral salivary flow. 70 with confirmed PSS, 15 with potential or early-stage PSS and 18 with non-SS. Salivary glands were digested in collagenase for 3 hours and sort-analysed using a BD Biosciences FACSFusion flow cytometer. Sorted cells from 6 patients were Giemsa stained to observe cell morphology. All subjects have given their written informed consent according to the principles of Helsinki and the project has received local REC approval.

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INTERFERON-γ AMPLIFIES IMMUNE RESPONSE MEDIATED BY TYPE I INTERFERONS IN PAEDIATRIC SYSTEMIC LUPUS ERYTHEMATOSUS AND CORRELATES WITH DISEASE ACTIVITY
Gian Marco Moneta1, Claudia Bracaglia2, Ivan Caiello3, Raphaela Pecorano3, Chiara Farroni3, Fabio Basta3, Luisa Bracci-Laudiero1, Raffaele Pecoraro4, Davide Brusa5, Fabrizio De Benedetti2, Emmanuella Marasco1

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