

417 WORLDWIDE PICTURE OF RENAL INVOLVEMENT IN SYSTEMIC LUPUS ERYTHEMATOSUS USING A BIG DATA ANALYTICAL APPROACH

¹M Pérez de Lis Novo, ²M Gandía, ³R Pérez-Álvarez*, ⁴P Brito-Zerón, ⁵B Kostov, ⁶A Siso-Almirall, ⁷D Superville, ⁸Y Shoenfeld, ⁹M Ramos-Casals, ¹⁰MA Khamashta. ¹Hospital Juan Canalejo, Anesthesiology and Critical Care, A Coruña, Spain; ²Hospital Puerta del Mar, Rheumatology, Cadiz, Spain; ³Hospital Álvaro Cunqueiro, Department of Autoimmune Diseases, Vigo, Spain; ⁴Josep Font Laboratory of Autoimmune Diseases- CELLEX-Institut d'Investigacions Biomèdiques August Pi i Sunyer IDIBAPS-, Department of Autoimmune Diseases- ICMiD- Hospital Clínic, Barcelona, Spain; ⁵Primary Care Research Group- Institut d'Investigacions Biomèdiques August Pi i Sunyer IDIBAP, Primary Care Centre Les Corts- CAPSE, Barcelona, Spain; ⁶Primary Care Research Group- Institut d'Investigacions Biomèdiques August Pi i Sunyer IDIBAPS, Primary Care Centre Les Corts- CAPSE, Barcelona, Spain; ⁷Massachusetts Institute of Technology, MIT, Cambridge- Massachusetts, USA; ⁸Zabludowicz Centre for Autoimmune Diseases- Chaim Sheba Medical Center- Tel Hashomer- Israel, Incumbent of the Laura Schwarz-Kipp Chair for Research of Autoimmune Diseases- Sackler Faculty of Medicine- Tel-Aviv University, Tel-Aviv, Israel; ⁹Josep Font Laboratory of Autoimmune Diseases- CELLEX-Institut d'Investigacions Biomèdiques August Pi i Sunyer IDIBAPS-, Department of Autoimmune Diseases- ICMiD- Hospital Clínic, Barcelona, Spain; ¹⁰St Thomas' Hospital- King's College University, Lupus Research Unit- The Rayne Institute, London, UK

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Background and aims Lupus nephritis is the most severe involvements of internal organs that may develop patients with systemic lupus erythematosus (SLE). Studying the worldwide distribution of this feature across geographic regions and ethnic groups using a big data-driven approach may help obtain a more high-definition resolution of lupus nephritis

Methods We made a text-word search in Google between 8th and 15th May 2015 using SLE and 100...100000000 patients. We selected the cohorts in which the frequency of renal involvement was detailed, and we analysed the influence on this frequency of the characteristics of the cohorts.

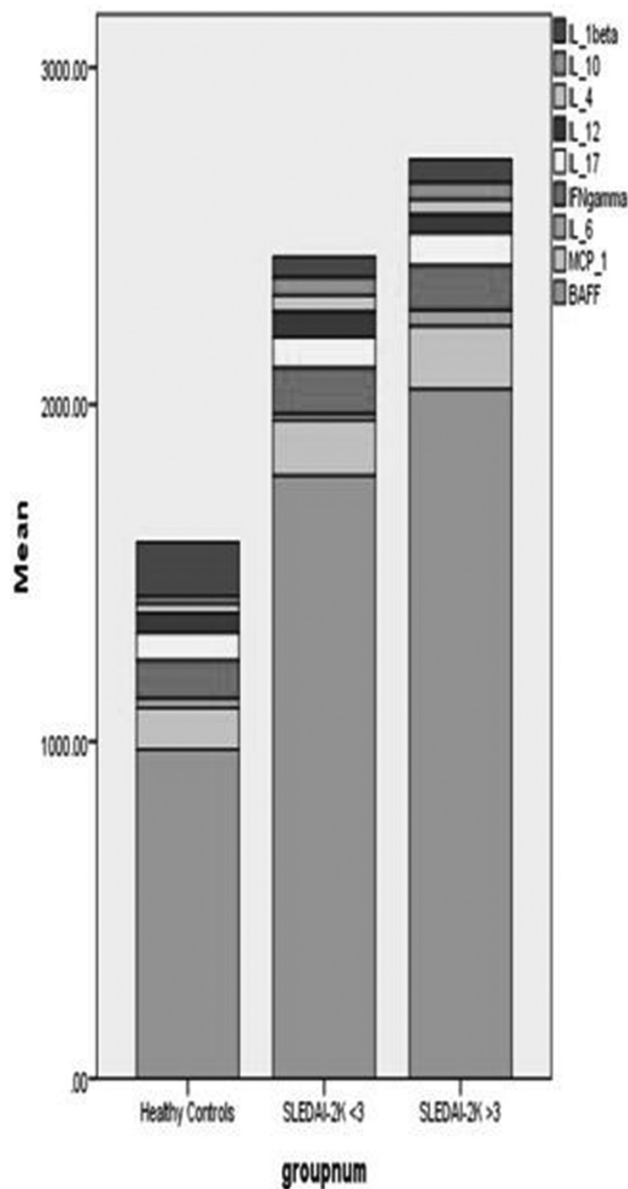
Results Of the 63 263 patients included, renal involvement was reported in 24 790 patients(38%).The rate of renal involvement was influenced by the predominant ethnicity:it was lower in cohorts in white patients in comparison with a multiethnic origin($p=0.008$).The mean age at SLE diagnosis was higher in cohorts in which the mean age was <40 years ($p=0.019$).The rate of renal involvement was higher in cohorts with a frequency of positive antiDNA antibodies higher than 75%($p=0.031$),cohorts with a frequency of positive antiSm antibodies higher than 25%($p=0.046$), cohorts with a frequency of positive antiRNP antibodies higher than 25%($p=0.031$) and cohorts with a frequency of positive anti-La/SSB antibodies higher than 15%($p=0.025$).

Conclusions This big data analytical approach confirm that the rate of renal involvement is influenced by ethnicity, the mean age at SLE diagnosis and the frequency of positive autoantibodies.The higher rates of renal involvement being found in US and Asian studies,with the youngest patients at the time of SLE diagnosis and highest rates of immunopositive patients.

418 PRINCIPAL COMPONENT ANALYSIS AS A METHOD TO UNRAVEL THE RELATION BETWEEN DISEASE ACTIVITY AND CYTOKINE PROFILING IN SYSTEMIC LUPUS ERYTHEMATOSUS

¹W Raymond*, ²G Eilertsen, ¹J Nossent. ¹The University of Western Australia, Rheumatology Group – School of Medicine, Perth, Australia; ²Arctic University of Tromsø, Rheumatology, Tromsø, Norway

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Abstract 418 Figure 1 Mean serum levels (pg/mL) of cytokines in healthy controls and SLE patients.

Background Cytokine dysregulation contributes to immune dysfunction, inflammation and organ damage in Systemic Lupus Erythematosus (SLE). Cytokines have multifarious interactions on other cytokines and immune cells. Thus cytokines studies should reflect this intrinsic complexity.

Aim Utilise Principle Component Analysis (PCA) to unravel the interplay of a selection of cytokines for SLE versus healthy controls.

Methods A cross-sectional study of 102 SLE patients and 30 controls. Sera samples of IFN- γ , IL-1 β , IL-4, IL-6, IL-10, IL-12, IL17, BAFF and MCP-1, were analysed by ELISA and compared non-parametrically between groups. SLE disease activity was assessed by SLEDAI-2K. PCA demonstrated the cytokine profiles of healthy controls, SLE patients with low (SLEDAI-2K<3) and moderate to high disease activity (SLEDAI-2K \geq 3).

Results BAFF correlated with disease activity (Rs. 0.483, $p<0.001$) and highest in SLEDAI-2K \geq 3 ($p<0.001$). BAFF was