



Abstract PS2:43 Figure 1

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ROLE OF ANTI-DFS70 ANTIBODIES IN THE SEROLOGICAL DIAGNOSTICS OF SLE

¹N Röber, ¹M Achleitner, ²M Aringer, ³S Rudolph, ⁴L Unger, ⁵A Gräßler, ⁶K Lütke, ⁷M Mahler, ¹K Conrad. ¹Institute of Immunology, Technical University Dresden, Dresden, Germany; ²Department of Medicine III, University Hospital Carl Gustav Carus, Dresden, Germany; ³Immune Centre Chemnitz, Chemnitz, Germany; ⁴Department of Medicine I, Municipal Hospital, Dresden-Friedrichstadt, Germany; ⁵Medical Practice, Pirna, Germany; ⁶Medical Practice of Rheumatology, Dresden, Germany; ⁷Inova Diagnostics, San Diego, USA

10.1136/lupus-2018-abstract.92

Background Positive antinuclear antibodies (ANA) may lead to additional testing and potentially even inappropriate treatment in patients with rheumatic symptoms not caused by systemic lupus erythematosus (SLE). The aim of our study was to evaluate if autoantibodies directed against DFS70 can be used to exclude SLE in ANA positive patients.

Patients and methods Anti-DFS70 antibodies were determined by chemoluminescence assay (CIA) in sera of 352 apparently healthy individuals (AHI), 300 patients with SLE, 335 patients with other connective tissue diseases (CTD) including 56 patients with undifferentiated connective tissue disease (UCTD), and 660 non-CTD patients (302 rheumatoid arthritis, 94 ANCA-associated vasculitis, 87 atopic rhinitis, 135 paediatric patients with celiac disease, and 42 autoimmune liver diseases). Furthermore, 1048 patients of a routine cohort with positive ANA results determined by immunofluorescence on HEp-2-cells showing positive staining of the chromatin region and negative result in confirmatory assays for antibodies against dsDNA, histone, nucleosome, and DNA-topoisomerase 1 antibodies were included in this study.

Results In AHI and in the non-CTD cohort, anti-DFS70 antibodies occur with a prevalence of 5.1% and 2%, respectively. Of the 1048 selected routine sera, 205 (19.6%) were positive for anti-DFS70 antibodies. Various diseases but no definite SLE were diagnosed according to available data of 116 of anti-DFS70 positive patients. Of the 300 SLE patients, only one patient was low titred positive for anti-DFS70 antibodies

in addition to dsDNA, nucleosome, Ro/SS-A and La/SS-B auto-antibodies. In the non-CTD group, only 6 of 579 patients (1.2%) were positive for anti-DFS70 antibodies, all of them also show disease specific autoantibodies. In patients with UCTD, 6 (10.7%) were anti-DFS70 antibody positive in the absence of disease specific autoantibodies. Up to now, no development of SLE was observed in these patients.

Conclusion If anti-DFS70 antibodies are positive in the absence of SLE specific autoantibodies, SLE can be excluded with high certainty.

Poster session 3: Epidemiology

PS3:45

SPATIAL-TIME CLUSTER ANALYSIS OF SLE DISEASE ACTIVITY

G Stojan, F Curriero, A Kvit, M Petri. *Johns Hopkins University, Baltimore, USA*

10.1136/lupus-2018-abstract.93

Background Cluster detection is an essential tool in the public health domain with the goal of detecting anomalous clusters of disease cases. We performed a spatial-time cluster analysis of the Johns Hopkins Lupus cohort with the goal of identifying potential spatial-time clusters of SLE organ specific disease activity.

Methods 1844 patients who fulfil 4 of the 11 American College of Rheumatology classification criteria for SLE and who had recorded home addresses were included in the analysis. Cluster detection analysis in both space and time of disease activity expressed as Physician Global Estimate (PGA) was performed. The area utilised in this analysis was a 350 kilometre radial buffer around the Johns Hopkins Lupus Centre, and included all of Maryland, Delaware, and District of Columbia, as well as parts of Pennsylvania, New Jersey, Virginia, and West Virginia. This area was considered due to the high and consistent density of study participants. The data ranged from 1987 to 2017, with the spring, summer, fall, and winter seasons serving as time units for the temporal based analyses.

Results CNS, renal, and joint flares have both seasonal patterns as well as large-scale multi-year trends. CNS flares clustered between Annapolis, MD and Frederick, MD between 1987 and 2000, renal flares clustered in central Maryland and northern Virginia between 2002 and 2006 and a joint