SAT0310

ANTI-CENTROMERE ANTIBODY ISOTYPE LEVELS AS BIOMARKER FOR DISEASE PROGRESSION IN SUBJECTS AT RISK TO DEVELOP SYSTEMIC SCLEROSIS

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Background: Presence of anti-centromere antibodies (ACA) generally associates with a better prognosis than many other systemic sclerosis (SSc) associated autoantibodies. However, presentation of the disease can be very heterogeneous and prediction of the disease course is challenging. Some older studies suggest a possible association between clinical characteristics and isotypes of ACA in patients with SSc. It is unknown whether ACA can serve as biomarker for future SSc development.

Objectives: To evaluate the clinical course of very early SSc and to assess whether ACA isotype levels can identify subjects that will progress to definite SSc.

Methods: ACA IgG+ patients with very early SSc (defined as presence of ACA IgG AND Raynaud and/or puffy fingers and/or abnormal nailfold capillaroscopy but not fulfilling ACR 2013 criteria) from five prospective SSc cohorts (Leiden, Zurich, Oslo, Bordeaux, Ghent) were included. Presence and levels of ACA IgG, IgM and IgA were determined at first clinical assessment and clinical course was evaluated annually. Disease progression to definite SSc, which was defined as fulfillment of the ACR 2013 criteria for SSc, and included any development of: digital ulcers (DU), interstitial lung disease (ILD) assessed by high resolution chest tomography, pulmonary arterial hypertension assessed by right heart catheterization, gastro-intestinal involvement, renal crisis or myocardial involvement was determined. ACA response characteristics were compared between very early SSc patients that progressed to definite SSc and those who did not. Logistic regression was performed to determine whether ACA response characteristics can predict progression to definite SSc, with adjustment for age and follow-up duration.

Results: In total 92 subjects were included with median follow-up (FU) of 3 years (table 1); 39% progressed to definite SSc, mostly based on the development of skin involvement (77%). Twenty-three percent of patients developed lung involvement, 11% DU, 17% gastro-intestinal involvement and 4% myocardial involvement. Progression on more than one organ system was present in 31% of the very early SSc patients. In the multivariable logistic regression, with adjustment for age and follow-up duration, ACA IgG levels at baseline were significantly associated with progression to definite SSc (OR 3.0 (1.1-8.8)). Likewise, a trend was observed for higher ACA IgM levels (OR 1.8 (0.9-3.5)) in the very early SSc patients progressing to definite SSc (figure 1).

Table 1. Baseline characteristics and ACA isotype levels in patients with very early SSc, and between progressors and non-progressors. * p value < 0.05.

	Progressors (n=35)	Non-progressors (n=57)
Female, n(%)	32 (91)	50 (91)
Age, mean (SD)	56 (14)	53 (13)
Disease duration since non Raynaud phenomenon, median(IQR) in years	3 (0.8-10)	2 (0.6-7)
Follow-up duration in years, median (IQR)	**4 (2-6)**	**2 (1-3)***
Abnormal Nailfold videocapillaroscopy, n(%)	17 (65)	27 (60)
IgA level [aU/mL], median (IQR)	63 (34-120)	75 (35-144)
IgM level [aU/mL], median (IQR)	131 (32-585)	79 (18-391)
IgG level [U/mL], median (IQR)	**342 (162-720)**	**195 (93-488)***

Conclusion: In this study we illustrate that 39% of the ACA positive very early SSc subjects progress to definite SSc within median 4 years. We identified higher ACA IgG level as a predictive biomarker for progression to definite SSc indicating that it might be a useful biomarker for risk stratification in clinical practice.

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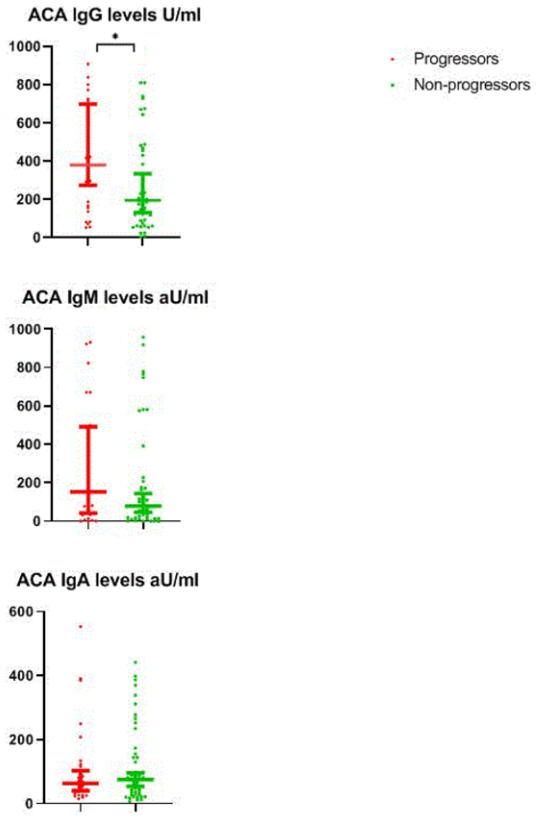

Figure 1. ACA isotype levels in the progressors and the non-progressors. ACA IgG levels were significantly different between the two groups (*p =0.02). On the X-as the two groups (progressors vs. non-progressors are shown) on the Y-axis the levels of ACA isotypes are shown in U/ml for ACA IgG, aU/ml for ACA IgM and ACA IgA.

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BIOELECTRICAL IMPEDANCE VECTOR ANALYSIS FOR NUTRITIONAL STATUS ASSESSMENT IN SYSTEMIC SCLEROSIS AND ASSOCIATION WITH DISEASE CHARACTERISTICS

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Background: Bioelectrical impedance vector analysis (BIVA) is a common non-invasive method for estimating body composition which ultimately allows to obtain information on subject's nutritional status. So far no data about the use of BIVA in patients with systemic sclerosis (SSc) have been published.

Objectives: We used BIVA in a cohort of SSc patients in order to assess their nutritional status and any correlation with the various clinical characteristics of the disease, also evaluating the differences with the general population.