THU0366

SYSTEMATIC CORONARY RISK EVALUATION (SCORE) MISCLASSIFIES CARDIOVASCULAR RISK IN ANTISYNTHEASE SYNDROME: RESULTS OF THE PILOT MULTICENTRIC STUDY RI.CAR.D.A.

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Background: Antisynthetase Syndrome (ASyS) is an autoimmune overlap disease characterized by anti-aminoacyl-tRNA-synthetase (anti-ARS) antibodies and the classic triad of arthritis, myositis and interstitial lung disease (ILD) (1). Markers of cardiovascular (CV) or cerebrovascular (CVB) risk have never been examined in ASyS.

Objectives: Aim of this study (Risk of CARdiovascular Disease in ASyS: RI.CAR.D.A.) was to test the ability of an established traditional CV risk prediction score (Systematic Coronary Risk Evaluation-SCORE) and its EULAR modified version (mSCORE) to identify ASyS patients at high CV risk. Moreover, we sought to examine for the first time associations of CV surrogate markers with clinical and immunological ASyS parameters.

Methods: SCORE/mSCORE and the gold standard marker of aortic stiffness (carotid-femoral pulse wave velocity-cfPWV) were examined in patients with ASyS and healthy controls in a multicenter setting (6 Rheumatology Centers). Moreover, sonography of the common- (CCA), internal- (ICA) and external- (ECA) carotid arteries was performed in subsets of both groups, evaluating carotid intima-media-thickness (cIMT), plaques and duplex-sonographic indices of CBV risk such as the resistance- (RI) and pulsatility-index (PI).

Figure 1. Carotid Doppler surrogate markers of cardiovascular and cerebrovascular risk in controls and ASyS (case). cIMT Carotid intima media thickness; CAA (common-), ICA (internal), ECA (external) carotid artery; RI resistance index; PI pulsatility index. (all; $p < 0.05$)

Results: We recruited 66 ASyS patients with different anti-ARS and 88 controls. According to mSCORE 5/50 (10%) of the patients had high CV risk. However, cfPWV and carotid sonography (CS) revealed an increased CV risk in 21.2% and subclinical carotid arteriosclerosis (plaques and/or cIMT>0.9mm) (SCA) in 85.7% of the patients respectively. ROC analyses showed similarly poor diagnostic performances of SCORE/mSCORE in comparison to cfPWV (>10 m/s) and SAC by areas under the curve (AUC) of 0.56 (95%CI=0.39-0.73) and 0.63 (95%CI=0.3-0.96), respectively. cfPWV and SCA were higher in ASyS patients compared to controls ($padj=0.021$ and $p=0.003$, respectively). cfPWV and cIMT correlated in the patient group significantly with age ($r=0.679$; $p<0.001$ and $r=0.664$; $p<0.001$, respectively). Moreover, cfPWV correlated with BMI ($padj=0.001$) and diabetes ($padj=0.043$). ACC-RI and ACC-PI showed significant

associations with a marker of myositis activity [creatine phosphokinase (CPK): $r=0.629$; $p=0.012$ and $r=0.574$; $p=0.032$, respectively]. Finally, ACI-RI and ACI-PI values were higher in patients with ILD (both; $p=0.039$).

Conclusion: This is the first report of higher aortic stiffness and SCA in ASyS patients compared to controls. Active myositis and presence of ILD were associated with higher CVB risk parameters. Furthermore, SCORE/mSCORE performed poorly in identifying patients at high CV risk and carotid arteriosclerosis compared to cfPWV and CS respectively. Thus, cfPWV and CS could improve CV and CBV screening in ASyS patients.

References:

[1] Cavagna L, et al. Clinical Spectrum Time Course in Anti Jo-1 Positive Antisynthetase Syndrome. *Medicine* 2015;94:1144.

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THU0367

INCIDENCE AND PREVALENCE OF SYSTEMIC SCLEROSIS-ASSOCIATED INTERSTITIAL LUNG DISEASE IN FLANDERS: A 12-YEARS COLLABORATIVE MULTICENTER PROSPECTIVE COHORT STUDY.

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Background: Systemic sclerosis-associated interstitial lung disease (SSc-ILD) is the main cause of death in SSc and accounts for up to 30-35% of SSc-mortality (1-2). All SSc cases, irrespective of the extent of the skin disease, should be evaluated for ILD (3). The epidemiology of SSc-ILD in Belgium is unknown. In literature, the prevalence of ILD in SSc varies between 19% and 52%. However, different criteria were used to diagnose ILD (4). In 2008, Goh et al. proposed a flow diagram to diagnose SSc-ILD based on chest high-resolution CT-scan (HRCT) and pulmonary function tests (PFTs). Their categorization into limited or extensive ILD has prognostic value (5).

Objectives: To determine the prevalence and incidence rate of SSc-ILD in Flanders.

Methods: Up to 12-year follow-up data of consecutive SSc patients were obtained by 2 Flemish expert centres (University Hospitals Ghent and Leuven). Patients fulfilling the LeRoy and/or ACR-EULAR classification criteria were included consecutively in the prospective cohort (6). Patients received HRCT at baseline and on indication thereafter, as well as yearly PFT. All HRCTs were centrally analyzed (Ghent) and patients were categorized according to the Goh criteria as without ILD, with limited ILD (limILD) or with extensive ILD (extILD) (5).

Results: Between 2006 and 2018, 797 SSc patients (557 Ghent/240 Leuven; 22% limited SSc (LSSc)/59% limited cutaneous SSc (LcSSc)/19% diffuse cutaneous SSc (DcSSc)) had baseline HRCT and PFT. The baseline characteristics are depicted in the table. The mean age (SD) was 53 +/-15 years and the majority of patients was female (76%).

272 SSc patients had ILD at baseline, implicating a baseline prevalence of 34% (272/797). The baseline prevalences were 35% and 55% for the LcSSc and DcSSc subgroups respectively. During a median follow-up of 39 months (IQR: 11-79 months), 44 patients were diagnosed with incident SSc-ILD, resulting in an incidence rate of 21.0/1000 person-years (PY), 95% CI:15.2-28.1. The incidence rates were 21.7/1000 PY, 95%CI: 14.3-31.6 and 43.9/1000PY, 95%CI: 22.7-76.8 for the LcSSc and DcSSc subgroups respectively.

Table. Baseline characteristics

	SSc (n=797)	LcSSc (n=470)	DcSSc (n=149)
age (years) °	53+/-15	54+/-15	54+/-14
♂/♀ *	193(24%)/604(76%) for 718: 22 (5-72)	109(23%)/361(77%) for 443: 25 (5-80)	58(39%)/91(61%) for 145: 16 (7-52)
Disease Duration (months) #			
LSSc/LcSSc/DcSSc *	178(22%)/470(59%)/ 149(19%)		
follow-up (months) #	39 (11-79)	38.5 (9.75-81)	44 (17.5-78)
Anti-centromere	252/538 (47%)	163/317 (51%)	19/108 (18%)
antibodies§			
Anti-topoisomerase	119/519 (23%)	66/297 (22%)	45/112 (40%)
antibodies§			
ILD at baseline, *			
LimILD, *	272 (34%)	163 (35%)	82 (55%)
ExtILD, *	230 (29%)	139 (30%)	67 (45%)
ExtILD, *	42 (5%)	24 (5%)	15 (10%)
New ILD during follow-up, §	44/525	27/307	12/67

°: mean +/- standard deviation, *: number of patients (percent), #: median (interquartile range), §: number of patients/total number of patients with available data (%)