AB1367

DIAGNOSTIC ASSOCIATION BETWEEN ELASTIN AND ELASTASE ANTIBODIES WITH CARDIOVASCULAR SYSTEM INVOLVEMENT IN SYSTEMIC SCLERODERMA PATIENTS

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Background: Large amounts of elastin are contained in vascular walls and in the cardiac valves. Elastin and elastase antibodies are predictors, *sui generis*, of vascular disease development in systemic scleroderma. The mechanism of direct proatherogenic effect of antibodies consists in stimulation of adhesion molecules and cytokine synthesis, oxLDL capture, induction of serine proteinase cascade by the coagulation system. In systemic rheumatoid disease, autoimmune inflammation is nowadays regarded as one of risk factors for the development of early atherosclerosis, disturbance of the structure and elasticity of vascular wall and of related cardiovascular conditions.

Objectives: Studying the effect of elastin and elastase autoantibody production on the cardiovascular system in systemic scleroderma (SSD) patients.

Methods: 42 patients hospitalised at municipal hospital 25 with diagnosis of SSD verified by ^{ARA} diagnostic criteria (1980) the diagnosis was considered firm if the patient showed one major and two minor criteria in any combination, simultaneously or consecutively, regardless of the time of their onset. The systemic scleroderma patients included 11 men and 31 women aged 22–72. The mean age of patients was 44.1±15.4 years. 30 healthy donors from the Volgograd hemotransfusion centre served as controls. Antibodies to elastin and elastase were determined in the blood serum using indirect enzyme immunoassay with magnetocontrollable adsorbents based on polyacrylamide granules according to the original technique by Gontar et al (1990).

Results: SSD patients showed considerable increase in the rate of elastase (52%) and elastin (38%) antibodies formation, in comparison with the controls. The upper normal limit of elastin antibody was within the range of 0.131 optical density units, elastase antibodies – 0.131 optical density units. In SSD patients elastin antibodies amounted to 0.125±0.068 optical density units. The titer of elastase antibodies was 0.143±0.071 optical density units. Healthy individuals did not show any elastin or elastase antibodies. An elevated antibody titer was associated with heart and vessels lesion in 47% of patients with SSD. In 20 patients of the studied group we revealed cardiovascular disease (IHD, macrofocal cardiovascular sclerosis with false infarction changes, chronic cardiac failure, and aorta atherosclerosis).

Conclusions: Among the patients we examined, 47% showed cardiovascular lesion associated with elevated elastin and elastase antibodies. This fact indicates that in systemic rheumatic disease, autoimmune inflammation is a risk factor for the development of early atherosclerosis, and of related cardiovascular conditions. Elastin and elastase antibodies are predictors, *sui generis*, of the development of vascular disease in patients with SSD.

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AB1368

THE COMPARATIVE RESPONSIVENESS OF HOSPITAL UNIVERSITARIO PRINCESA INDEX AND OTHER COMPOSITE INDICES FOR ASSESSING RHEUMATOID ARTHRITIS ACTIVITY

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Background: HUPI was developed with data from the PEARL study (Princess Early Arthritis Register Longitudinal study) as an easy to calculate index, which avoided the gender bias affecting DAS28 and SDAI. In addition, it can be calculated either with erythrocyte sedimentation rate (ESR), C reactive protein (CRP) or both. Response criteria based on HUPI have also been developed¹.

Objectives: To evaluate the responsiveness of the Hospital Universitario La Princesa Index (HUPI) comparatively to the traditional composite indices to assess disease activity in rheumatoid arthritis (RA), and to compare the performance of HUPI-based response criteria with that of the EULAR response criteria.

Methods: Post-hoc analyses were performed using data from the following studies: ACT-RAY (clinical trial), PROAR (early RA cohort) and EMECAR (pre-biologic era long term RA cohort). Responsiveness was evaluated by: 1) comparing change from baseline (Δ) of HUPI with Δ in other scores by calculating correlation coefficients; 2) calculating standardised effect sizes. The accuracy of response by HUPI and by EULAR criteria was analysed using linear regressions in which the dependent variable was change in global assessment by physician (Δ GDA-Phy).

Results: Δ HUPI correlation with change in all other indices ranged from 0.387 to 0.791; HUPI's standardised effect size was larger than those from the other indices in each database used. In ACT-RAY, depending on visit between 65% and

80% of patients were equally classified by HUPI and EULAR response criteria. However, HUPI criteria were slightly more stringent, with higher percentage of patients classified as non-responder, especially at early visits. HUPI response criteria showed a slightly higher accuracy than EULAR response criteria when using Δ GDA-Phy as gold standard.

Table 1

Comparison of sensitivity to change HUPI with other composite indices.

	Standardised size effect					Response (% EULAR vs HUPI)		
	HUPI	DAS28-VSG	DAS28-PCR	SDAI	CDAI	None	Moderate	Good
3 months	2'3	2'18	2'2	1'99*	1'67*	9 vs 22	53 vs 42	38 vs 36
6 months	3'13	2'93	2'85	2'56*	2'27*	3 vs 9'5	34 vs 29	63 vs 60'5
12 months	3'69	3'45	3'28*	2'87*	2'65*	2 vs 6'5	23 vs 20	75 vs 73'5

*p<0.05 respect HUPI

Conclusions: HUPI shows good responsiveness in each studied scenario (clinical trial, early RA cohort, and established RA cohort). Response criteria by HUPI seem more stringent than EULAR's.

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AB1369

ELEVATED CA-125 IN IGG4-RELATED MESENTERIC DISEASE: A RED HERRING? A SYSTEMATIC LITERATURE REVIEW

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Background: Mesenteric panniculitis (MP), a rare fibrotic inflammatory disease of the bowel mesentery, can be a rare manifestation of IgG4-related disease (IgG4-RD). IgG4-RD is a chronic inflammatory disease most commonly affecting the pancreas, characterised by infiltration of IgG4-positive plasma cells and lymphocytes into various organs.¹

We recently encountered a male patient with IgG4-related MP who was incidentally found to have a very high level of CA-125, which correlated with CRP levels and normalised after steroid treatment. This prompted a systematic literature review (SLR) to better understand this unexpected phenomenon.

Objectives: To investigate for associations between CA-125, MP and/or IgG4-RD, understand possible common pathophysiological mechanisms and explore potential clinical implications.

Methods: The SLR was performed using MEDLINE, EMBASE, Web of Science, and Scopus, looking for literature on either MP and CA-125 or IgG4-RD and CA-125 up to January 8 2018, using a comprehensive search strategy with relevant mesh terms and keywords linked to the above broad categories. Literature screening was performed by two independent reviewers.

Results: 24 unique citations were found, of which 13 were unanimously identified as relevant by the two reviewers. The final selected articles included: 8 case reports, 3 conference abstracts of case reports, 1 cohort study of 22 patients, and a retrospective study of 7 patients (table 1). CA-125 was raised in 22/40 patients in the identified reports (shown in red), including males, and was often the only elevated tumour marker (yellow). We also report on the presence of effusions (blue), as this may be linked to the causal mechanism.

Table 1 The clinical and laboratory characteristics of cases of IgG4-RD and MP

Article	Patient demographics	Main diagnosis	Serum CA-125 (U/mL)	Other tumour markers	Presence of effusions
Tong et al. (2017)	43 F	IgG4-RD	↑ (1065)	CA 19-9 ↑, AFP ↑, CEA ↔	Ascites, pleural and pericardial effusions
Khosla et al. (2016)	72 M	AIP	↑ (196.4)	CA 19-9 ↔, CEA ↔	N/A
Thomas et al. (2015)	46 F	AIH, AI myositis	↑ (417)	CA 19-9 ↑	Ascites
Zhou, Zeng (2014)	24 F	IgG4-RD (lung)	↔	CA 19-9 ↔, CEA ↔, CA-153 ↔	Pleural effusion
Fengjing et al. (2014)	Cohort study of 22 patients	IgG4-RD	↑ in 12/22	CA 19-9 ↑ in 6/22	N/A
Cheng et al. (2013)	45 M	AIP	↑ (77.5)	CA 19-9 ↔	Ascites, pleural effusions
Liu et al. (2012)	41 M	IgG4-RD (lung)	↔	CA 19-9 ↔, CEA ↔, PSA ↔, NSE ↔	No
Graham, Harvin (2016)	66 F	IgG4-RD (SM)	↔	CA 19-9 ↔, CEA ↔	Ascites
Ghadir et al. (2012)	70 M	AIP	↔	CA 19-9 ↔, CEA ↔	N/A
Dogaru et al. (2015)	60 F	SM	↑ (295.5)	CA 19-9 ↔, AFP ↔, CEA ↔	N/A
Buyukbayrak et al. (2011)	38 F	SM	↑ (44.5)	CA 19-9 ↔, AFP ↔, CEA ↔, CA 153 ↔	Ascites
Malter et al. (2017)	57 F	MP	↑ (630)	N/A	Ascites
Xiaoting et al. (2017)	Retrospective study of 7 patients (3 F, 4 M)	IgG4-RD (lung)	↑ in 3/3 F (46.54, 156, 85.58)	CA 19-9 and CEA ↑ in 1/3 F	No
Current report	56 M	IgG4-related MP	↑ (1358)	CA 19-9 ↔, AFP ↔, CEA ↔	Pleural effusion in 1/4 M

Abstract AB1369 – Figure 1

AI: Autoimmune, **AIH:** Autoimmune Hepatitis, **AIP:** Autoimmune Pancreatitis, **SM:** Sclerosing Mesenteritis, **↑:** Raised, **↔:** Normal

Conclusions: To our knowledge, this is the first SLR exploring the association between CA-125 and IgG4-RD and MP. Despite the small sample, our results do indicate that CA-125 was raised in more than 50% of reported cases, the majority of which also had some kind of effusion. Although traditionally a marker of ovarian cancer, this report highlights that a raised CA-125 can be found in other, non-malignant, inflammatory conditions, and potentially correlates with inflammatory burden. CA-125 in this setting may thus represent a useful biomarker and have a role in monitoring treatment response.

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AB1370 PATIENT REPORTED OUTCOMES MEASURES FOR FIBROMYALGIA: A REVIEW

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Background: Persons with fibromyalgia (FM) suffer from numerous symptoms with various levels of intensity, such as widespread pain, fatigue, cognitive dysfunction, non-restorative sleep, depression, and anxiety among others. The patient's perspective has been recognised by Outcome Measure in Rheumatology (OMERACT) as a key assessment in FM. For that reason, some patient reported outcomes measures (PROMs) have been developed. PROMs allow the comparison of a specific component of the disease in a patient through time, and also provide the opportunity to health professionals to compare patients between them in clinical trials. However, some PROMs are used over others despite a limited validation process. In addition, different versions of the same PROMs can co-exist, what can lead to uncertainty when selecting the adequate instrument.

Objectives: To identify the existing PROMs for FM and analyse their psychometric properties.

Methods: The authors performed a comprehensive search in electronic databases (Medline, Embase, and Cochrane) in order to identify validation studies of PROMs for FM. Studies published between January 1990 and November 2017 were included. Generic PROMs and validation of diagnostic criteria and related screening tools were not considered as PROMs and were excluded. Information was gathered based on the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) checklist manual.

Results: The electronic search produced 1832 records. After screening, a total of 48 studies containing 16 PROMs for FM were included. The PROMs included address different constructs of the disease, Fibromyalgia Impact Questionnaire (FIQ), Revised Fibromyalgia Impact Questionnaire (FIQR), Combined Index of Symptom Severity, Combined Index of Severity of Fibromyalgia, Comprehensive Rating Scale for Fibromyalgia Symptomatology, Fibromyalgia Assessment Status, Fibromyalgia Bladder Index, Fibromyalgia Burden Assessment, Fibromyalgia Health Assessment Questionnaire, Fibromyalgia Impact Questionnaire+Visual Analogue Scales, Fibromyalgia Participation Questionnaire, Fibromyalgia Sleep Diary, Multidimensional Inventory of Subjective Cognitive Impairment, Multidimensional Patient Reported Outcome Measures Questionnaire, PROMIS Fatigue FM Profile, and Multidimensional daily diary of fatigue-fibromyalgia-17 items.

Almost all PROMs have adequate content validity. Three PROMs do not report construct validity; seven do not report reliability, and six do not report internal consistency. Only three PROMs evaluate criterion validity and three responsiveness. The FIQ and the FIQR are the PROMs more widely cross-cultural validated with 18 and 13 adaptations respectively.

Conclusions: PROMs for FM have, in general, only partial validation of their psychometric properties. Validation of an instrument is a continuous process in which quality is more important than quantity. Instead of creating new PROMs for FM, future works should focus on completing missing parts of the validation process of existing ones. In addition, cultural adaptations and translations of the available PROMs should be prioritised in order to offer researchers across the globe a tool-box of options in where they can choose the best PROMs to address their objectives in a highly subjective syndrome as FM.

Disclosure of Interest: None declared

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AB1371 CLINICAL SIGNIFICANCE OF KL-6 AND SP-D AS SERUM MARKERS FOR INTERSTITIAL LUNG DISEASE IN PATIENTS WITH CONNECTIVE TISSUE DISEASE

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Objectives: To evaluate the association between serum levels of Krebs von den Lungen-6 (KL-6) and surfactant protein-D (SP-D) and the clinical manifestations and severity of interstitial lung disease (ILD) in patients with connective tissue disease (CTD).

Methods: Eighty patients with various CTDs were included, as follows: 33 with rheumatoid arthritis (RA), 19 with systemic lupus erythematosus (SLE), 10 with systemic sclerosis (SSc), 9 with Sjögren's syndrome (SS), and 9 with inflammatory myositis. KL-6 and SP-D levels were measured using an enzyme-linked immunosorbent assay and defined as abnormal if KL-6 ≥ 500 U/mL and SP-D ≥ 110 mg/mL. All patients were simultaneously evaluated for parameters related to disease activity using laboratory tests and a pulmonary function test, and interstitial lung abnormalities (ILA) using chest computed tomography (CT). Patients were subclassified according to ILA score: 0 for no ILD, 1 for indeterminate ILD, 2 for mild ILD, and 3 for advanced ILD based on chest CT scans.

Results: In all, 29 patients had radiologically advanced ILD, 18 had mild ILD, 18 had indeterminate ILD, and 15 had no ILD. A higher ILA score was associated with more severe dyspnea, and decreased volume and percent of functional vital capacity, forced expiratory volume in 1 s, and diffusion capacity of carbon monoxide. As clinical manifestations, a higher ILA score was associated with a higher GAP index but not with the parameters of disease activity. A higher ILA score was associated with higher levels of KL-6 and SP-D and a higher percentage of subjects with abnormal levels, and this was more pronounced in SLE, SSc, and SS than in RA.

Conclusions: Serum levels of KL-6 and SP-D are associated with the radiological severity of ILD. Hence, these can serve as markers for ILD severity, especially in SLE, SSc, and SS.

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AB1372 TOWARDS REFORMING THE TAXONOMY OF HUMAN DISEASE: THE PRECISESADS CROSS SECTIONAL STUDY

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Objectives: The PRECISESADS project aims at using OMICs, and bioinformatics to identify new classifications for systemic autoimmune diseases (SADs) known to share common pathophysiological mechanisms in view of personalised treatments. Multi OMICs parameters collected in addition to routine clinical data in a cross-sectional study involving patients suffering from systemic lupus erythematosus (SLE), systemic sclerosis (SSc), Sjögren's syndrome (Sjs), rheumatoid arthritis (RA), primary antiphospholipid syndrome (PAPs), mixed connective