FRI0259

THE CLINICAL VALUE OF GDF-15 IN ASSESSING MYOCARDIAL INVOLVEMENT OF IDIOPATHIC INFLAMMATORY MYOPATHY

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Background: Cardiac involvement is a serious complication of idiopathic inflammatory myopathy (IIM). Early diagnosis and intervention can improve prognosis. At present, myocardial biopsy is the gold standard for its diagnosis, but it is not commonly used because of its invasiveness. Biomarkers can be invoked as a non-invasive and convenient choice. The traditional markers of myocardial injury, as troponin and creatine kinase are lack specificity in inflammatory myopathy, so the novel biomarkers are getting attention. GDF-15 can predict the risk of cardiovascular disease and the prognosis of coronary atherosclerosis, heart failure and other diseases.

Objectives: This article was intended to investigate the diagnostic value of GDF-15 for myocardial involvement in inflammatory myopathy.

Methods: This retrospective study included 54 patients with inflammatory myopathy from May 2018 to October 2019. Of these, 30 patients underwent cardiac magnetic resonance examination due to increased myocardial markers, excluding 1 case of severe lung infection. 33 patients with systemic lupus erythematosus (SLE), 16 normal patients were used as the control group. The concentration of GDF-15 in the serum of all groups of patients was measured by ELISA.

Results: 1. There were significantly differences in GDF-15 levels in patients with inflammatory myopathy, systemic lupus erythematosus and normal subjects ($H = 39.870$, $P < 0.001$). 2. 29 patients with cardiac magnetic resonance on the basis of the delayed enhancement (LGE) and ECV results were divided into two groups in which 19 patients with myocardial injury group and 10 patients without myocardial injury. The best cut-off value was calculated by ROC curve, and comparing GDF-15 and CKMB with the optimum cut-off values in predicting cardiac involvement in IIM. GDF-15 levels were statistically significant between the myocardial injury group (1765.868 ± 1068.549 pg/ml) and the group without myocardial injury (689.967 ± 458.12 pg/ml) ($p = 0.001$). At the same time, the creatine kinase isoenzyme (CKMB) (158.583 ± 119.389 U/L vs 57.96 ± 52.673 U/L, $p = 0.005$) was statistically different between the two groups. 3. GDF-15 ≥ 1005.365 pg/ml ($AUC = 0.853$, 95% CI $0.694-1.000$) predicted myocardial involvement in inflammatory diseases with a sensitivity of 0.765 and specificity of 0.900. The AUC of the ROC curve for the joint detection of GDF-15 and CKMB was 0.888, 95% CI $0.757-1.000$, with the predicted probability cut-off value in 0.3895, the sensitivity 0.941 and the specificity 0.800. The combined detection of the two increased the sensitivity of myocardial damage detection in IIM patients. 5. After adjusted for age, renal function, the risk of myocardial injury in IIM patients increased by an average of 0.3% per unit of GDF-15 (OR = 1.003, 95% CI 1.000–1.005).

Conclusion: GDF-15 can predict myocardial injury in patients with inflammatory myopathy which have high specificity. The prediction sensitivity can be improved by combining with the traditional myocardial enzyme CKMB. More further studies are needed to confirm the specific mechanism of GDF-15 for myocardial involvement to assess the prognosis of such patients and guide further treatment.

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FRI0260

NAIFOLD VIDEOCAPILLAROSCOPY IS A USEFUL TOOL TO RECOGNIZE SYSTEMIC SCLEROSIS AND IDIOPATHIC INFLAMMATORY MYOPATHIES IN INTERSTITIAL LUNG DISEASE PATIENTS

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Background: Nailfold videocapillaroscopy (NVC) is an essential tool for the assessment of Raynaud's Phenomenon (RP) among the Scleroderma Spectrum Disorders (SSDs). Recently, NVC abnormalities have been associated with a diagnosis of Idiopathic Inflammatory Myopathies (IIMs), independently of the

presence of RP (1). Moreover, both SSDs and IIMs are commonly associated with Interstitial Lung Disease (ILD), which is the main cause of mortality in these conditions.

Objectives: To verify whether NVC may allow a better diagnostic classification in a cohort of patients with ILD followed by pulmonologists.

Methods: 361 patients affected by ILD were prospectively enrolled in a 30-months observational study. All these patients were clinically evaluated by rheumatologists and pulmonologists together and performed general blood tests, autoantibody research, chest High-Resolution Computed Tomography and NVC. The latter was considered positive in the presence of avascular areas or giant capillaries, and also the presence of Bushy Capillaries (BCs) was recorded.

Results: NVC was positive in 17.7% of ILD patients, and a third of these patients did not present RP. Patients with NVC abnormalities had a diagnosis of definite Connective Tissue Disease in 78.1% of cases. NVC resulted decisive in 25% of patients with a final diagnosis of Systemic Sclerosis according to the ACR/EULAR 2013 criteria. The presence of BCs and/or NVC+ in ILD patients with normal serum levels of muscular enzymes was associated with amyopathic IIM (BCs= OR 3.9, 95CI 1.05-14.38, $p=0.04$; NVC+= OR 5, 95CI 1.29-19.3 $p=0.02$; BCs and/or NVC+= OR 5.41 95CI 1.24-23.48 $p=0.02$), regardless the presence of RP.

Conclusion: NVC proved to be a valid tool in the correct assessment of ILD patients secondary to SSDs and amyopathic IIMs. Therefore, it could be considered in the diagnostic evaluation of patients affected by ILD, regardless of the presence of RP.

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Table 1. Comparison between ILD patients with and without NVC positivity.

Items	NVC+ patients	NVC- patients	p
Number	64	297	
Mean Age ($\pm$ SD)	61.4 $\pm$ 13.3	67.8 $\pm$ 9.8	0.001
Female%	65.6	49.1	0.01
RP%	68.7	17.1	<0.0001
HRCT patterns%			
NSIP	51.5	36.8	0.02
OP	3.1	8	n.s.
UIP-like	31.15	44.8	n.s.
DIP	1.5	3.4	n.s.
LIP	1.5	0.4	n.s.
Indeterminate	10.9	6.7	n.s.
Final Diagnosis%			
SSDs	45.3	1	<0.0001
IIMs	25	6.4	<0.0001
Other CTDs	6.2	13.5	n.s.
IPAF	10.9	19.5	n.s.
IPF	7.8	27.9	0.0007

Legend: DIP: Desquamative Interstitial Pneumonia; HRCT: High Resolution Computed Tomography; IIMs: Idiopathic Inflammatory Myopathies; Poly/dermatomyositis, antisynthetase syndrome; IPAF: Interstitial Pneumonia with Autoimmune Features; IPF: Idiopathic Pulmonary Fibrosis; LIP: Lymphocytic Interstitial Pneumonia; NSIP: Nonspecific Interstitial Pneumonia; OP: Organising Pneumonia; RP: Raynaud's Phenomenon; SSDs: Scleroderma Spectrum Disorders, Systemic Sclerosis + Mixed Connective Tissue Disease; UIP: Usual Interstitial Pneumonia.

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FRI0261

DIFFERENTIAL EXPRESSION OF PERIPHERAL CD4+ T CELLS IN PATIENTS WITH SYSTEMIC SCLEROSIS AND MIXED CONNECTIVE TISSUE DISEASE

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