OP-041

Predictors of Mortality in Scleroderma Patients with Pulmonary Hypertension

Uğur Nadir Karakulak[1], Vedat Hekimsoy[1], Naresh Maharjan[1], Ergün Barış Kaya[1], Levent Kılıç[2], Ali Akdoğan[2], Lale Tokgözoğlu[1]
[1]Hacettepe University Faculty of Medicine Department of Cardiology, Ankara,
[2]Hacettepe University Faculty of Medicine Department of Rheumatology, Ankara

Introduction: Scleroderma is a chronic inflammatory, autoimmune disease that is characterized by generalized fibrosis of skin and visceral organs. Although interstitial pulmonary fibrosis is the most common pulmonary manifestation, pulmonary hypertension due to pulmonary vasculopathy is also seen frequently. Despite new developments in treatment options, pulmonary hypertension accompanying connective tissue disease such as scleroderma has a poor prognosis. The objective of this study was to determine mortality in scleroderma patients with pulmonary hypertension as well as the predictors of mortality.
Materials-Methods: 21 scleroderma patients with pulmonary hypertension were included in this study. The patients had a detail history, physical examination and electrocardiography performed and pulmonary hypertension was diagnosed by transthoracic echocardiography along with right heart catheterization during which systolic, diastolic and mean pulmonary artery pressures were measured. High resolution tomography was used to diagnose interstitial pulmonary disease and inflammatory markers and autoantibodies were also measured. 6 minute walking test was used to evaluate functional capacity during diagnosis and evaluation of pulmonary capacity was performed by pulmonary function testing and diffusion capacity measurements. All patients were followed with hospital visits and mortality was determined from hospital records.
Results: Patients included in the study were predominantly females (16 females, 5 males); the mean age was 57.9 years (38 - 82) and mean follow-up period was 9.6±6.8 years. 7 (33%) patients died during follow-up. The demographic and imaging test characteristics are shown in Table 1 and the results of catheterization and 6 minute walking test are shown in Table 2. In single variable analysis, distant organ involvement and presence of digital ulcer, low body mass index, degree of tricuspid regurgitation and systolic pulmonary pressure in echocardiography, and CRP level were found to be significant as predictors of mortality. In multiple variable analysis, presence of digital ulcer and CRP level were found to be significant as predictors of mortality in scleroderma patients with pulmonary hypertension.
Discussion: Pulmonary hypertension accompanying scleroderma seriously decreases the survival of these patients. Determination of high risk patients is important for intensification of treatment strategies and early intervention. In this study, approximately one-thirds of the patients died in about 10 years of follow-up. This study sheds light on the possible predictors of mortality of these patients and these predictors can be used for the early determination of high risk patients.

Table 1

Age (years)	57,9 ± 12,0
Sex (female)	16
Body mass index (kg/m^2)	27,1 ± 4,3
End diastolic diameter (cm)	4,4 ± 0,3
End systolic diameter (cm)	2,8 ± 0,4
Ejection fraction (%)	65,5 ± 7,2
Diastolic right ventricular diameter (cm)	2,9 ± 0,5
Pulmonary arterial pressure (mmHg)	65,0 ± 34,0
Diffusion capacity (%)	45,6 ± 13,0
Pulmonary artery diameter on CT	34,8 ± 3,2
Baseline demographic and imaging characteristics	

Table 2

6 min walking distance (meter)	262,4 ± 96,1
Before 6 min walking dyspnea score (1-10)	3,4 ± 2,5
After 6 min walking dyspnea score (1-10)	4,6 ± 2,2
Right atrial pressure (mmHg)	11,0 ± 5,3
Right ventricular systolic pressure (mmHg)	64,7 ± 22,6
Right ventricular diastolic pressure (mmHg)	11,8 ± 5,9
Systolic pulmonary arterial pressure (mmHg)	65,5 ± 23,3
Mean pulmonary arterial pressure (mmHg)	43,9 ± 13,4
Diastolic pulmonary arterial pressure (mmHg)	28,5 ± 9,9
Pulmonary capillary wedge pressure (mmHg)	13,2 ± 3,6
Cardiac output (L/min)	5,6 ± 0,7
Results of 6 minute walking test and right heart catheterization	

Congestive Heart Failure

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The Assessment of Relationship between Dysregulated MicroRNAs and Left Ventricular Mass and Mass Index in Systolic Heart Failure

Huseyin Altug Cakmak[1], Hasan Ali Barman[1], Baris Ikitimur[1], Ender Coskunpinar[2], Yasemin Musteri Oltulu[2], Gunay Can[3], Bilgehan Karadag[1], Servet Altay[4], Vural Ali Vural[1]
[1]Istanbul University, Cerrahpasa Medical Faculty, Department of Cardiology, Istanbul, [2]Istanbul University, Institute of Experimental Medicine Research, Department of Molecular Medicine, Istanbul, [3]Istanbul University, Cerrahpasa Medical Faculty, Department of Public Health, Istanbul, [4]Siyami Ersek Education and Research Hospital, Department of Cardiology, Istanbul

Introduction: Recent studies have demonstrated the potential role of microRNAs (miRNA) as biomarkers in various cardiovascular disorders. Left ventricle hypertrophy and dilatation are among changes encountered in the remodeling process in patients with congestive heart failure (CHF).

The aim of this study was to investigate the relationship between expression levels of dysregulated miRNAs and echocardiographic parameters related with left ventricular mass index in chronic CHF patients.
Methods: In our study, 20 clinically stable (NYHA II) and 22 decompensated (NYHA III and IV) systolic CHF (ejection fraction (EF) <%40) cases were enrolled. Whole genome miRNA profiling was done with microarray method and dysregulated miRNAs were detected compared to 15 healthy controls. All patients underwent transthoracic echocardiography in order to determine left ventricular EF, dimensions, left ventricular mass index (LVMI) and tissue doppler peak systolic velocity of mitral annulus values.
Results: A total of 29 miRNAs were up or down regulated in CHF patients. Out of these 29 miRNAs, five were demonstrated to be correlated with LVMI values. Specifically, miR-182 (p=0.04), miR-200a-star (p=0.019), and miR-568 (p=0.023) were found to be negatively correlated with LVMI. On the other hand, mir-155 (p=0.019), and miR-595 (p=0.04) were positively correlated with LVMI in patients with CHF. There was no relation between expression levels of dysregulated miRNAs and following echocardiographic parameters: EF (p>0.05) and tissue doppler peak systolic velocity of mitral annulus (p>0.05).
Conclusion: This study demonstrates the significant relationship between some, but not all of the dysregulated miRNAs and left ventricular mass index values in systolic CHF patients.

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The Diagnostic Importance of MicroRNAs in Congestive Heart Failure

Huseyin Altug Cakmak[1], Hasan Ali Barman[1], Ender Coskunpinar[2], Yasemin Musteri Oltulu[2], Baris Ikitimur[1], Gunay Can[3], Sevgi Ozcan[1], Vural Ali Vural[1]
[1]Istanbul University, Cerrahpasa Medical Faculty, Department of Cardiology, Istanbul, [2]Istanbul University, Institute of Experimental Medicine Research, Department of Molecular Medicine, Istanbul, [3]Istanbul University, Cerrahpasa Medical Faculty, Department of Public Health, Istanbul

Introduction: MicroRNAs (miRNAs) are small, endogenous and non-coding RNAs that are 21-25 nucleotides in length. Recent studies have demonstrated the role of miRNAs as potential biomarkers in various disorders. The aim of this study was to investigate the diagnostic importance of miRNAs in congestive heart failure (CHF).
Methods: In our study, 20 clinically stable (NYHA II) and 22 decompansated (NYHA III and IV) systolic CHF (EF<%40) patients and 15 healthy controls were enrolled. Whole genome miRNA profiling was done and dysregulated miRNAs were detected with microarray method in CHF patients compared to healthy controls. Also, the serum levels of pro-Brain Natriuretic Peptide (BNP), high sensitive C-reactive protein (hs-CRP) and uric acid were measured.
Results: Microarray profiling showed serum miR-21, miR-4278, miR-650, miR-744star, miR-516-5p, miR-1292, miR-182, miR-1228, miR-595, miR-663b, miR-1296, miR-1825, miR-299-3p, miR-662 miR-122-star, miR-3148, miR-518e-star, miR-2054 as up regulated, and serum miR-129-3p, miR-3155, miR-3175, miR-583, miR-568, miR-30d, miR-200a-star, miR-1979, miR-371-3p, miR-155-star, miR-502-5p as down regulated in CHF.

The diagnostic values of miR-4278 (AUC 1.00 p<0.0001), miR-516-a-5p (AUC 1.00 p<0.0001) and miR-1228 (AUC 1.00 p<0.0001) were found to be very high compared to other known important clinical prognostic markers as pro-BNP (AUC

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