

28<sup>th</sup> International Conference on

# CARDIOLOGY AND HEALTHCARE

August 09-11, 2018 Abu Dhabi, UAE

## Factors associated with right ventricular dysfunction among patients with pulmonary sarcoidosis

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**Background & Aim:** Arterial Stiffness (AS) is one of the most potent prognostic factors of cardiovascular morbidity and mortality. Obesity has many effects on cardiovascular structure, function and hemodynamics. Effects of AS and Body Mass Index (BMI) on the Right Ventricle (RV) function among patients with Pulmonary Sarcoidosis (PS) are unknown. The aim is to investigate the RV systolic dysfunction by several echocardiographic parameters among patients with PS and determine how it is associated with AS and BMI.

**Method:** We identified 82 patients with biopsy-proven pulmonary sarcoidosis, who underwent echocardiography, spirometry, Diffusing Capacity of Carbon Monoxide (DLCO), plethysmography. Pulmonary High Resolution Computed Tomography (HRCT) was assessed by Kazerooni scale (ground-glass and fibrosis). Aortic Pulse Wave Velocity (PWV), BMI were evaluated. RV systolic function was assessed among all subjects using different methods (Tricuspid Annular Plane Systolic Excursion (TAPSE), RV myocardial Performance Index (MPI) and RV systolic excursion velocity by tissue Doppler (S')).

**Result:** RV systolic dysfunction was found in 17% of subjects by TAPSE, 19.5% by RV MPI and S'. All parameters of RV systolic function correlated with DLCO ( $p < 0.01$ ), total lung capacity ( $p < 0.001$ ), HRCT, PWV ( $p < 0.01$ ). In multivariate regression analysis the factors associated with RV systolic dysfunction were the PWV ( $p = 0.006$ ), HRCT ( $p = 0.001$ ).

**Conclusion:** The systolic function of the RV is associated with lungs involving and arterial stiffness. BMI has not shown any correlation with RV systolic dysfunction.

### Biography

Elena Leonova is a PhD researcher from the Department of Differential Diagnosis of Interstitial Lung Diseases and Extracorporeal Therapeutic Methods, Federal Central Tuberculosis Research Institute. She had her researches on cardiovascular problems among patients with interstitial lung diseases. Along with the research work and teaching activities, she is actively engaged in medical practice.

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