THE RELATIONSHIP BETWEEN CARDIOVASCULAR AUTONOMIC PARAMETERS AND PULMONARY FUNCTION IN PATIENTS WITH MYASTHENIA GRAVIS - PRELIMINARY RESULTS

M. Zawadka-Kunikowska[1*], Ł. Rzepiński[2,3], M. Cieślicka[1], J. Fanslau[1], J. J. Klawe[4], M.Tafil-Klawe[1]

[1]Department of Human Physiology, Nicolaus Copernicus University Ludwik Rydygier Collegium Medicum in Bydgoszcz, Karłowicza 24, 85-092, Bydgoszcz, Poland, m.zkunikowska@cm.umk.pl

[2]Sanitas - Neurology Outpatient Clinic, Dworcowa 110, 85-010, Bydgoszcz, Poland

[3]Department of Neurology, 10th Military Research Hospital and Polyclinic, 85-681 Bydgoszcz, Poland;

[4]Department of Hygiene, Epidemiology, Ergonomy and Postgraduate Education, Ludwik Rydygier Collegium Medicum in Bydgoszcz Nicolaus Copernicus University in Torun, M. Sklodowskiej-Curie 9, 85-094 Bydgoszcz, Poland

The study aimed to investigate the relationship between pulmonary function, and cardiac autonomic function parameters in clinically stable myasthenia gravis (MG) patients. A total of 44 subjects (MG patients and healthy controls; HCs) were evaluated. PFTs parameters, heart rate variability (HRV), baroreflex sensitivity (BRS), cardiovascular autonomic function tests (Valsalva ratio, expiration/inspiration ratio-E/I) were assessed. Patients demonstrated similar diffusion capacity for carbon monoxide (D_{LCO}), lower forced vital capacity ($FVC\%_{pred}$), forced expiratory volume in 1 second ($FEV1\%_{pred}$), lower BRS and HRV: high frequency, total power spectral density of HRV, and higher percentage of abnormal cardiovagal function test results than HCs, $p<0.05$. Lower BRS in the patient group was associated with worse clinical disease outcomes and reduced pulmonary function ($D_{LCO}\%_{pred}$, $R=0.59$; $TLC\%_{pred,}$ $R=0.48$). Age, forced vital capacity, and total lung capacity predicted the E/I ratio. Our study demonstrated a significant relationship between reduced pulmonary ventilation function and respiratory mechanics with cardiovascular autonomic parameters, including the E/I ratio, BRS, and HRV measures at rest as shown in MG group.