PEARL - RISK PREDICTION SCORE FOR HOSPITAL READMISSION OR DEATH AFTER COPD EXACERBATION WITH CASE REPORT

BRADVICA-KELAVA K.[1], Milaković M.[1], Posavi A.[2], Barišić B.[3], Puretić H.[3], Popović-Grle S.[3]

[1] Croatian Institute of Public Health, Zagreb, Croatia
Division for Occupational Health

[2] University Hospital Center Osijek, Osijek, Croatia
Department of Pulmonology

[3] University Hospital Center Zagreb, School of Medicine University of Zagreb, Zagreb, Croatia
Clinical Department for Lung Diseases Jordanovac

Objective:

Introduction: The PEARL score is a simple tool used to predict 90-day readmission or death without readmission in patients hospitalised with an acute exacerbations of COPD. One quarter of COPD patients hospitalized for the first time due to exacerbations die within a year and in other mortality is related to the number of readmissions. Globally, there is 251 million cases of COPD with more than 3 million deaths a year; eight times more than from asthma. COPD often results with bad individual health outcome together with large economic impact on society due to the high rate (20-40%) of patients who retire early, seek for part-time employement, are more absent from work and report greater presenteeism and lower work productivity than people without COPD.

Case report: We present a case of a 62-year old man with severe COPD (GOLD 4D), centrilobular emphysema with cystic bronchiectasis, secondary pulmonary hypertension and LV diastolic dysfunction. He was admitted to the hospital for exacerbation of dyspnea, peripheral edema and respiratory failure. In oder to predict 90-day outcome, we used PEARL. A total score consists of: previous admissions for AECOPD ≥2 (3 points), eMRCD dyspnea score of 4, 5a or 5b (1, 2 or 3 points), age ≥80 (1 point), right-sided heart failure (1 point) and/or left-sided heart failure (1 point). According to items, PEARL score can vary from 0-9 stratifying patients in three groups; low (score 0-1), intermediate (score 2-4) and high risk (score 5-9). Presented patient had ≥2 previous admissions, eMRCD score of 3 and a LSHF which makes a total PEARL score of 4 (intermediate risk). He is employed, but not as a construction worker as he used to for years; now he works in administration.

Conclusion: We aimed to raise awareness about the marked effect that COPD has on the working age population. It is closely related to employement; occupational exposure can cause COPD, but also worsen the symptoms. Symptoms can decrease productivity and increase absenteesm, presenteesm and early retirement. People with COPD can work physically non-demanding jobs in a good microclimate without airborne pollutants, just like our patient whose employer found him a more appropriate job for his health condition. In order to enable individuals to remain in active employment, occupational medicine specialists can use PEARL in workers with COPD for work ability assessement and workplace adjustment recommendations, especially important for workplaces with increased COPD mortality, like in construction industry.