14. ELECTROCARDIOGRAPHIC CHANGES IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Author: Calancea Elena

Scientific adviser: Svetlana Lozovanu, MD, Associate Professor, Department of Human Physiology and Biophysics, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova; Calancea Valentin, MD, Associate Professor, Discipline of Occupational Diseases, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova

Introduction. Breath control is automatic and its regulation is the target of vegetative influences. Therefore, involuntary and voluntary nervous regulation of respiration has a well-defined role in the occurrence and evolution of cardiovascular events. Chronic obstructive pulmonary disease (COPD), which ranks 3-5 in the structure of general morbidity and mortality, is often a cause of death, most often showing extrapulmonary changes and chronic pulmonary heart decompensation and fatal arrhythmias.

Aim of study. We aimed to analyze the cardiorespiratory interactions in patients with COPD by analyzing electrocardiographic changes (ECG).

Methods and materials. The study included 120 patients with COPD stage I-III GOLD, who underwent standard resting ECG test, evaluating the cardiac rhythm and conductibility, on the background of stopping drug therapy, which could have influenced the rhythmic activity of the heart.

Results. The results regarding the heart rhythm show that in 20.8% of cases no changes were registered, sinus tachycardia was registered in 58.3% of patients. Among other various rhythm disorders, 4.2% of patients had premature ventricular contractions (PVCs), in 1 case of trigeminal type, 7.5% of cases had PSVs. We did not notice any patients with paroxysmal rhythm disorders or any of high-grade ventricular arrhythmias. Highlighting of conduction disorders, denotes the right bundle branch block (RBBB) of the bundle of His at 24.2% of cases, the block of the anterior fascicle of the left bundle branch of the His bundle 2.5%, the bifascicular block at 5% of patients. Following analysis has established that indirect signs of right ventricular hypertrophy (RVH) were found in 39.2% of cases, represented by: R/SV5:R/SV1 <10.0 in 21.3 cases, deviation of the electrical axis to the right - in 87.2% cases, RV5 <5.0 mm at 19.9%; "pulmonary P wave" in leads II, III, aVF - 51.1%, RBBB in 61.7% of cases. Highlights of non-specific changes in the ST segment and T-wave such as flattening, amplitude reduction (smoothing, attenuation) or reversal, which involves the evolution of repolarization, were recorded in 23.4% of patients (most of them in standard leads II and III and right chest leads; others - either in the left lateral leads, or in most of the standard leads), and in 24.8% of investigated cases - a combination of the changes of the P wave in leads II, III; and in a number of cases a decrease of the voltage of the QRS complex. Intraventricular conduction delay and bundle branch block with the simultaneous changes of the P waves were recorded with the same frequency.

Conclusion. The investigation of COPD patients by the ECG method has shown that in 58.3% of cases a sinus tachycardia was diagnosed, in 8.2% of cases- heart rhythm disorders of various types and severity. The prevalence of the sympathetic component over the parasympathetic one of the vegetative nervous system presents an unfavorable prognosis of the disease, leading to the appearance of severe arrhythmias and increasing the risk of sudden death.