

Short review of new clinical guidelines: report from the European Society of Cardiology Congress 2016

Annual congress of the European Society of Cardiology was successfully held in Rome, Italy, on August 27-31, 2016. It is the biggest international cardiologic scientific event that involved more than 30000 specialists from 106 countries.

At the opening ceremony the Chairman of the program committee, professor Geneviève Derumeaux cheered participants and said: "We warmly welcome everybody at the European Society of Cardiology Congress 2016, which is held in eternal city Rome for a first time. I think that this event can be described with the words of a great Italian director Federico Fellini: "There is no end. There is no beginning. There is only the infinite passion of life"".

The scale of the Congress' scientific program is impressive. It included more than 500 sessions in 150 different fields. More than 11000 abstracts were received and 4594 of them were selected for publication. Apart of them this Congress presented:

- 28 clinical trials "Hot Line"
- 26 updated clinical trials
- Results of 24 international and national registers

One of the main events of the Congress was, undoubtedly, the visit of Pope Francis. During his welcoming speech the Pontifex Maximus applied to the President of the European Society of Cardiology and the Congress' participants and said: "You are responsible for good cardiac performance. How many symbols are hidden in this word! How many hopes are there inside this human organ! You hold in your hands the beating nucleus of human body, and because of it your responsibility is very high. I am sure that you, standing in front of this book of life, will open many

pages. With these feelings I show my gratitude for your work. I ask God to bless your investigations and medical help, so everybody would be able to receive the relief from sufferings, life of high quality and growing feeling of hope".

Traditionally there was the workbench of the Russian Society of Cardiology at the exhibition of the European Congress. More than 300 delegates from different regions of Russia took part in the Congress. The works of Russian scientists and young specialists were made in the form of oral and poster presentations. This year our scientists also participated as workshops' chairmen.

New clinical guidelines of the European Society of Cardiology

Five new documents were released during the European Society of Cardiology Congress: guidelines for dyslipidaemia management, atrial fibrillation (AF) management, acute and chronic heart failure diagnostics and treatment, cardiovascular disease prevention in clinical practice and consensus document dedicated to cardiovascular toxicity in cancer treatment. ,

Guidelines for dyslipidaemia management issued by the European Society of Cardiology and European Atherosclerosis Society indicate the necessity of blood lipids levels reduction both in general population and in patients with high risk. It is recommended to prescribe combined therapy including statin and ezetimibe in patients with persistent hypercholesterolemia. Unlike the corresponding guidelines of American societies, according with which statins are recommended

for all the groups of patients with high risk even in case of low cholesterol levels without mentioning aims, updated European document advises target levels of low density lipid (LDL) levels depending on the presence of comorbid pathology and 10-years risk of fatal cardiovascular diseases. It is necessary to reach at least 50% reduction of LDL levels in all cardiovascular risk patients. LDL target levels in patients with high risk is less than 2,6 mM and in patients with very high cardiovascular risk – less than 1,8 mM in case of initial LDL levels around 1,8-3,5 mM.

Special section is dedicated to hypertriglyceridemia treatment.

This guidelines for the first time discuss the use of PSK9 inhibitors: their prescription can be considered in case of persistent high LDL levels during the combined therapy with statin and ezetimibe. It is pointed out that PSK9 inhibitors can be highly effective in the patients with severe familial hypercholesterolaemia. On the other side, high cost of the therapy can restrict the use of this class of drugs in several countries.

This document reviews more precisely the problem of lifestyle change. It includes detailed recommendation in relation to preferable food and the products that should be consumed in moderate or restricted amount.

One more innovation of these guidelines is related to the statement that it is not necessary to determine fasting levels of cholesterol since the results of several studies identified the same levels of lipids after blood tests made on an empty stomach and after food consumption.

Fourteen sections describe the treatment of dyslipidaemia in different clinical situations (familial dyslipidaemia, in children, in females, in elderly people, in diabetes mellitus, in patients with coronary heart disease, after stroke, etc).

The European Society of Cardiology and the European Heart Rhythm Association **guidelines for the management of atrial fibrillation (AF)** approved by the European Stroke Organization include several new points. They highlight the important role of early detection of asymptomatic AF. It is necessary to perform purposeful electrocardiographic screening for AF diagnostics in all patients older than 65 years or patients who survived stroke/transitory ischemic attack. Anticoagulant therapy should be considered for males with AF and 1 point and females with 2 points of CHA₂DS₂-VASc score, taking into account

individual features and preferences of patients. Males with AF and 2 points and females with 3 points of CHA₂DS₂-VASc score are recommended to receive anticoagulants, particularly, new oral anticoagulants should be the first-line therapy in appropriate patients due to higher safety of these drugs. Moderate/severe mitral stenosis, mechanical heart valves, severe chronic kidney disease are indications for vitamin K antagonists. Aspirin and other antiplatelet drugs are not recommended for stroke prevention. Bleeding and stroke risk factors in patients with AF overlap, and patients with high risk of bleeding, are likely to have an advantage receiving anticoagulants. System of bleeding risk estimation is not more recommended, and there is a list of modifying risk factors requiring correction to reduce the risk of bleeding.

Strategy for the management of bleeding during anticoagulant therapy is described, it included the question of therapy renewal after bleeding., ischemic stroke or intracranial hemorrhage.

Catheter ablation is recognized as alternative to antiarrhythmic drugs for maintaining sinus rhythm in patients with symptomatic relapses of paroxysmal or persistent AF during pharmacological therapy. Isolation of pulmonary vein ostium is preferable, and extended treatment is recommended as a reserve therapy for patients with recurrent AF.

European Society of Cardiology **guidelines for diagnostics and treatment of chronic heart failure (CHF)** contain new algorithm of CHF diagnostics based on clinical probability of disease (disease history, physical examination, electrocardiography in rest), circulation natriuretic peptides levels and transthoracic echocardiography. New text of the guidelines left ventricle (LV) ejection fraction (EF) less than 40% is considered reduced, 50% and more – preserved, and LV EF in the range of 40-49% is called mid-range.

Treatment of arterial hypertension, administration of statins in case of high risk of coronary heart disease development, angiotensin-converting enzyme inhibitors in case of LV symptomatic dysfunction and beta-blockers in case of asymptomatic LV dysfunction and history of myocardial infarction are recommended for CHF prevention.

Sacubitril/valsartan (LCZ696) inhibitor of angiotensin and neprilysin receptors is proposed for the treatment of CHF that demonstrated better results than analapril in mortality risk and hospitalization reduction in patients with CHF with reduced LV EF in the PARADIGM-HF study. It led to the change of CHF

with reduced LV EF management algorithm. At the same time the principles of CHF with LV EF less than 50% treatment that would allow to reduce patients' mortality are still not elaborated.

In the new document implantation of three-chamber cardiac pacemaker for resynchronization therapy of symptomatic CHF with LV EF less than 35% is contraindicated for patients with QRS duration less than 130 ms.

In case of acute heart failure it is recommended to define immediately the presence of life-threatening clinical conditions and/or provoking factors according with CHAMP abbreviation (acute coronary syndrome, hypertonic crisis, arrhythmia, acute mechanic cause, acute pulmonary embolism) and to perform task-oriented therapy according with the current Guideline. During early stage of acute heart failure it is advised to use the algorithm based on patient's clinical profile, estimating presence of blood congestion and peripheral hypoperfusion.

New guidelines for cardiovascular disease prevention in clinical practice were prepared by the experts of the European Society of Cardiology and European Association of Cardiovascular Prevention and Rehabilitation. Their new chapter is dedicated to the population approach to cardiovascular disease prevention including the measures to popularize healthy life style in all population (healthy food, sufficient physical activity, smoking cessation by economic incentives, prohibition, etc). Population strategy of cardiovascular disease prevention completes the acting principle of "high risk" correction in chosen individuals.

There are recommendations of general risk estimation and a short discussion of the most important cardiovascular disease development risk factors. The main part of these guidelines is dedicated to the ways to modify main risk factors of cardiovascular disease development: arterial hypertension, dyslipidaemia and dysglycemia. New sections are dedicated to the prevention of cardiovascular disease development in particular groups of people: women, young and elderly, ethnic minorities and patients receiving anticancer treatment. This guideline includes key recommendations for prevention of complications in particular clinical situations: heart failure, atrial fibrillation, coronary heart disease and peripheral artery disease.

There is a table in the end of the document that concludes all the main positions of new Guidelines that can improve cardiovascular disease prevention.

Consensus document dedicated to the cardiovascular toxicity in cancer treatment

was developed by the expert committee of the European Society of Cardiology. New document covers all aspects of cardiovascular toxicity related to anticancer in conditions of not sufficient amount of data obtained from randomized trials.

The authors concentrate their attention on 9 categories of complication in cardiooncology: myocardial dysfunction and heart failure, coronary heart disease, valve pathology, cardiac arrhythmias, arterial hypertension, thromboembolic complications, peripheral artery disease and stroke, pulmonary hypertension, pericarditis, pleuritis and autonomic dysfunction. Vascular spasm, endothelial damage, thrombosis, prolongation of QT interval play the leading role in development of cardiovascular complications in chemotherapy or radiotherapy of cancer.

The major part of the document is dedicated to myocardial dysfunction and heart failure as the consequence of chemotherapy, particularly after anthracycline administration that is accompanied with LV dysfunction averagely in 50% of cases. The time of this drug manifestation varies from the administration of the first dose to several years after chemotherapy. Children survived after cancer treatment with anthracycline and/or mediastinal radiotherapy have 15-fold increased risk of heart failure and reduced life-span. Apart of accumulated anthracycline dose, other risk factors include female gender, kidney failure, other cardiotoxic pharmacological therapy and radiotherapy, concomitant cardiovascular diseases. Cardiotoxicity is considered in case of more than 10% reduction of LV ejection fraction and more than 15% relative change of global longitudinal deformation comparing with its initial levels. It is recommended to correct existing cardiovascular risk factors before the start of therapy and to administer angiotensin-converting enzyme inhibitors and/or beta-blockers soon after cardiac dysfunction is detected.

More detailed information about scientific materials of the European Society of Cardiology Congress 2016 is available on the website www.escardio.org, and full version of clinical guidelines can be found on the page www.escardio.org/guidelines.

The next congress of the European Society of Cardiology will take place in Barcelona on August 26-30, 2017.