



ISSN: 2277- 7695

TPI 2016; 5(10): 92-95

© 2016 TPI

www.thepharmajournal.com

Received: 12-08-2016

Accepted: 14-09-2016

Sergiy Fedorov

Professor of Therapy and Family Medicine Department of Postgraduate Faculty, Ivano-Frankivsk National Medical University, Ukraine.

Irena Kozlova

Associate professor of Therapy and Family Medicine Department of Postgraduate Faculty, Ivano-Frankivsk National Medical University, Ukraine

Khrystyna Symchych

Associate professor of Therapy and Family Medicine Department of Postgraduate Faculty, Ivano-Frankivsk National Medical University, Ukraine

Vasyl Skrypko

Professor of Surgery Department of Postgraduate Faculty, Ivano-Frankivsk National Medical University, Ukraine

Correspondence

Sergiy Fedorov

Professor of Therapy and Family Medicine Department of Postgraduate Faculty, Ivano-Frankivsk National Medical University, Ukraine

The achievement of the congress of European Society of Cardiology: focus on new guidelines

Sergiy Fedorov, Irena Kozlova, Khrystyna Symchych and Vasyl Skrypko

Abstract

The epidemiological data reports that cardiovascular diseases (CVD) is the most common cause of death among Europeans and that despite steady decreases in CVD mortality rates across the continent, more 4 million Europeans die of CVD every year. In USA more than 2200 Americans die of CVD daily: 1 death every 40 seconds. In this article we reviewed of new European Society of Cardiology (ESC) guidelines for some CVD prevention and treatment.

Keywords: cardiovascular diseases, prevention, treatment

Introduction

It's known that cardiovascular disease (CVD) is a major cause of morbidity and mortality worldwide, with the lifetime risk exceeding 60% [1]. The 2010 Global Burden of Disease study estimated that CVD caused 15.6 million deaths worldwide, 29.6% of all deaths. This was two times as many deaths as was caused by cancer and was more than all communicable, maternal, neonatal, and nutritional disorders combined [2, 3]. The epidemiological data reports that CVD is the most common cause of death among Europeans and that despite steady decreases in CVD mortality rates across the continent, more 4 million Europeans die of CVD every year [4, 5]. In USA more than 2200 Americans die of CVD daily: 1 death every 40 seconds [1].

An increasingly sedentary lifestyle and energy-dense diet facilitated by urbanization have contributed to epidemics of obesity, hypertension, and diabetes, which are all major cardiovascular risk factors. These risks, coupled with aging populations, drive the need to develop and implement prevention strategies that will be effective and accessible for high- and lower-income countries. The worldwide framework for tobacco control and working with the food industry to develop healthier accessible foods are key examples of lifestyle-related strategies for prevention. Low-cost preventive medications such as the multicomponent "polypill" also hold promise as cost-effective strategies to reduce the burden of cardiovascular disease; however further evidence of the efficacy across different population and age groups is required [6].

The purpose of this article is review of new European Society of Cardiology (ESC) guidelines updated in 2016.

Material and Methods

In this article we used of new ESC guidelines materials, published in 2016 and presented on European congress of ESC in Rome (August, 2016).

Results and Discussion

Five new guidelines were presented this year in Rome by ESC experts: "CVD prevention in clinical practice", "Cancer treatment and cardiovascular toxicity" "Acute and chronic heart failure", "Dyslipidaemias 2016 (Management of)" Atrial fibrillation 2016 (Management of)".

The present guidelines "CVD prevention in clinical practice" represent an evidence-based consensus of the 6th European Joint Task Force involving 10 professional societies. This document has been developed to support healthcare professionals communicating with individuals about their cardiovascular (CV) risk and the benefits of a healthy lifestyle and early modification of their CV risk. In addition, the guidelines provide tools for healthcare professionals to promote population-based strategies and integrate these into national or regional prevention frameworks and to translate these in locally delivered healthcare services,

in line with the recommendations of the World Health Organization (WHO) global status report on non-communicable diseases 2010 [7]. As in the present guidelines, the model presented in the previous document from the 5-th European Joint Task Force has been structured around four core questions: (1) What is CVD prevention? (2) Who will benefit from prevention? (3) How to intervene? (4) Where to intervene? Compared with the previous guidelines, greater emphasis has been placed on a population-based approach, on disease-specific interventions and on female-specific conditions, younger individuals and ethnic minorities [7].

The risk factor goals and target levels for important cardiovascular risk factors are the same like in previous paper (see table 1).

The main key messages of this paper are: prevention of CVD, either by implementation of lifestyle changes or use of medication, is cost effective in many scenarios, including population-based approaches and actions directed at high-risk individuals; cost-effectiveness depends on several factors, including baseline CV risk, cost of drugs or other interventions, reimbursement procedures and implementation of preventive strategies.

Cancer and CVD share many of the same risk factors, geographically coexist, and are the leading causes of death [8]. Furthermore, patients with cancer and preexisting CVD are at increased risk for cardiotoxicity when exposed to cardiotoxic agents, as well as other cardiac events [9].

The present guidelines “Cancer treatment and cardiovascular toxicity” reviews the different steps in cardiovascular monitoring and decision-making before, during and after cancer treatment with potential cardiovascular side effects. Although this document is not a formal clinical practice guideline, it aims to assist professionals involved in the treatment of patients with cancer and survivors by providing an expert consensus regarding current standards of care for these individuals [10]. The cardiovascular complications of cancer therapy in this document divided into nine main categories: myocardial dysfunction and heart failure (HF); coronary artery disease (CAD); valvular disease; arrhythmias, especially those induced by QT-prolonging drugs; arterial hypertension; thromboembolic disease; peripheral vascular disease and stroke; pulmonary hypertension and pericardial complications. The main pathways for prevention of cardiovascular complications are presented in current guidelines.

It's known that prevalence of heart failure (HF) is approximately 1–2% of the adult population in developed countries, rising to $\geq 10\%$ among people >70 years of age [11, 12]. The lifetime risk of HF at age 55 years is 33% for men and 28% for women [13]. The aim of present guidelines “Acute and chronic heart failure” is to provide practical, evidence-based guidelines for the diagnosis and treatment of HF [14]. The principal changes from the 2012 guidelines relate to [14]:

1. A new term for patients with HF and a left ventricular ejection fraction (LVEF) that ranges from 40 to 49% — ‘HF with mid-range EF (HFmrEF)’; we believe that identifying HFmrEF as a separate group will stimulate research into the underlying characteristics, pathophysiology and treatment of this population;
2. Clear recommendations on the diagnostic criteria for HF with reduced EF (HFrEF), HFmrEF and HF with preserved EF (HFpEF);
3. A new algorithm for the diagnosis of HF in the non-acute setting based on the evaluation of HF probability;

4. Recommendations aimed at prevention or delay of the development of overt HF or the prevention of death before the onset of symptoms;
5. Indications for the use of the new compound sacubitril/valsartan, the first in the class of angiotensin receptor neprilysin inhibitors (ARNIs);
6. Modified indications for cardiac resynchronization therapy (CRT);
7. The concept of an early initiation of appropriate therapy going along with relevant investigations in acute HF that follows the ‘time to therapy’ approach already well established in acute coronary syndrome (ACS);
8. A new algorithm for a combined diagnosis and treatment approach of acute HF based on the presence/absence of congestion/hypoperfusion.

The present guidelines “Dyslipidaemias 2016 (Management of)” represent an evidence-based consensus, by appraising the current evidence and indentifying remaining knowledge gaps in managing the prevention of dyslipidaemias, the Task Force formalated recommendations to guide actions to prevent CVD in clinical practice by controlling elevated lipid plasma levels [15].

Despite good progress in the management of patients with atrial fibrillation (AF), this arrhythmia remains one of the major causes of stroke, heart failure, sudden death, and cardiovascular morbidity in the world. In current guidelines “Atrial fibrillation 2016 (Management of)” the findings from landmark trials in atrial fibrillation management, including treatment of concomitant conditions and prevention, anticoagulation, rate control therapy, rhythm control therapy, and atrial fibrillation surgery are described [16]. The key achievements of this paper in AF management are: non-vitamin K antagonist oral anticoagulants (NOACs) safer and slightly more effective compared vitamin K antagonists in stroke prevention; angiotensin-converting enzyme inhibitors (ACEi) and angiotensin receptor blockers prevent AF in hypertensive patients, beta-blockers prevent AF in HF with reduced ejection fraction (HFrEF) patients pre-treated with ACEi, mineralocorticoid receptors antagonists prevent AF in HFrEF patients pre-treated with ACEi and beta-blockers; pulmonary vein isolation (PVI) alone as effective as complex ablation in persistent AF, cryoenergy as effective as radiofrequency for PVI; concomitant maze surgery maintains sinus rhythm but increases risk of permanent pacemaker.

As a short summary this guidelines provides 17 simple rules to guide the diagnosis and management of AF patients [16]:

1. Use ECG screening in at-risk populations for AF, especially stroke survivors and the elderly.
2. Document AF by ECG before starting treatment.
3. Evaluate all AF patients by clinical evaluation, ECG, and echocardiogram for underlying cardiovascular conditions such as hypertension, heart failure, valvular heart disease, and others.
4. Provide tailored information and education to AF patients to empower them to support AF management.
5. Propose lifestyle changes to all suitable AF patients to make their management more effective.
6. Treat underlying cardiovascular conditions adequately, e.g. valve repair or replacement in AF patients with significant valvular heart disease, treatment of heart failure, or management of hypertension, among others.
7. Use oral anticoagulation in all AF patients unless they are at low risk for stroke based on the CHA₂DS₂VASc score or have true contraindications for anticoagulant therapy.

8. Anticoagulate patients with atrial flutter similar to AF. Offer isthmus ablation to symptomatic flutter patients.
9. Reduce all modifiable bleeding risk factors in all AF patients on oral anticoagulation, e.g. by treating hypertension, minimizing the duration and intensity of concomitant antiplatelet and non-steroidal anti-inflammatory drug therapy, treating anaemia and eliminating causes for blood loss, maintaining stable INR values in patients on VKAs, and moderating alcohol intake.
10. Check ventricular rate in all AF patients and use rate control medications to achieve lenient rate control.
11. Evaluate AF-related symptoms in all AF patients using the modified EHRA symptoms scale. Whenever patients have AF-related symptoms, aim to improve symptoms by adjustment of rate control therapy and by offering antiarrhythmic drugs, cardioversion, or catheter or surgical ablation.
12. Select antiarrhythmic drugs based on their safety profile and consider catheter or surgical ablation when antiarrhythmic drugs fail.
13. Do not offer routine genetic testing in AF patients unless there is suspicion of an inherited cardiac condition.
14. Do not use antiplatelet therapy for stroke prevention in AF.
15. Do not permanently discontinue oral anticoagulation in AF patients at increased risk of stroke unless such a decision is taken by a multidisciplinary team.
16. Do not use rhythm control therapy in asymptomatic AF patients, nor in patients with permanent AF.
17. Do not perform cardioversion or catheter ablation without anticoagulation, unless an atrial thrombus has been ruled out transoesophageal echocardiogram.

Table 1: Risk factor goals and target levels for important cardiovascular risk factors (adapted from ESC, 2016 [7])

Smoking	No exposure to tobacco in any form
Diet	Low in saturated fat with a focus on wholegrain products, vegetables, fruit and fish
Physical activity	At least 150 min a week of moderate aerobic exercises (30 min a 5 days/week) or 75 min a week of vigorous aerobic exercises (15 min a 5 days/week) or their combination
Body weight	BMI 20-25 kg/m ² . Waist circumference <94 cm (men), < 80 cm (women)
Blood pressure	< 140/90 mm Hg
Lipids LDL-C	Is primary target <1.8 mmol/l – for very high risk <2.6 mmol/l – for high risk <3.0 mmol/l – for other or 50% reduction Not target, but prefer
HDL-C	>1.0 mmol/l (men), >1.2 mmol/l (women) Not target, but prefer
Triglycerides	<1.7 mmol/l
Diabetes	HbA1c < 7%

Conclusion: The current ESC guidelines must be implemented in everyday practice with the aim to improve prevention and management of cardiovascular diseases.

References

1. Vasan RS, Benjamin EJ. The Future of Cardiovascular Epidemiology. *Circulation*. 2016; 133:2626-2633.
2. Lozano R, Naghavi M, Foreman K *et al*. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012; 380:2095-2128.
3. Townsend N, Nichols M, Scarborough P, Rayner M. Cardiovascular diseases in Europe – epidemiological update 2015. *Eur. Heart J*. 2015. doi:10.1093/eurheartj/ehv428.
4. Nichols M, Townsend N, Scarborough P, Rayner M. Cardiovascular disease in Europe: epidemiological update. *Eur Heart J*. 2013; 34:3028-3034.
5. Nichols M, Townsend N, Scarborough P, Rayner M. Cardiovascular disease in Europe, epidemiological update. *Eur. Heart J*. 2014; 35:2950-2959.
6. Reid C, Owen A. *Epidemiology of Cardiovascular Diseases*. Springer Singapore, 2016, 45-64.
7. Piepoli MF, Hoes AW, Agewall S *et al*. European Guidelines on cardiovascular disease prevention in clinical practice. *European Heart Journal*. 2016; 37(29):2315-2381
8. Herrmann J, Lerman A, Sandhu NP, Villarraga HR, Mulvagh SL, Kohli M. Evaluation and management of patients with heart disease and cancer: cardio-oncology. *Mayo Clin Proc*. 2014; 89:1287-1306
9. Al-Kindi, Sadeer G *et al*. Prevalence of Preexisting Cardiovascular Disease in Patients With Different Types of Cancer. *Mayo Clinic Proceedings*. 2016; 91(1):81-83.
10. Zamorano JL, Lancellotti P, Muñoz DR *et al*. ESC Position Paper on cancer treatments and cardiovascular toxicity developed under the auspices of the ESC Committee for Practice Guidelines. *European Heart Journal*. 2016; 37(36):2768-2801.
11. Mosterd A, Hoes AW. Clinical epidemiology of heart failure. *Heart*. 2007; 93:1137-1146.
12. van Riet EES, Hoes AW, Limburg A *et al*. Prevalence of unrecognized heart failure in older persons with shortness of breath on exertion. *Eur J Heart Fail*. 2014; 16:772-777.
13. Bleumink GS, Knetsch AM, Sturkenboom MC *et al*. Quantifying the heart failure epidemic: prevalence, incidence rate, lifetime risk and prognosis of heart failure The Rotterdam Study. *Eur Heart J England*. 2004; 25:1614-1619.
14. Ponikowski P, Voors AA, Anker SD *et al*. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *European Heart Journal*. 2016; 37(27):2129-2200.

15. Catapano AL, Graham I, De Backer G *et al.* ESC/EAS Guidelines for the Management of Dyslipidaemias. European Heart Journal. 2016. DOI: 10.1093/eurheartj/ehw272
16. Kirchhof P, Benussi S, Kotecha D *et al.* ESC Guidelines for the management of atrial fibrillation developed in collaboration with EACTS. European Heart Journal. 2016. ehw210; DOI: 10.1093/eurheartj/ehw210