

Po čemu se nove Europske smjernice o prevenciji kardiovaskularnih bolesti u kliničkoj praksi razlikuju od prethodnih?

What is different in the new European guidelines on cardiovascular diseases prevention when compared with previous guidelines?

Željko Reiner*

Klinički bolnički centar Zagreb, Zagreb, Croatia
University Hospital Centre Zagreb, Zagreb, Croatia

SAŽETAK: Nove europske smjernice o prevenciji kardiovaskularnih bolesti (KVB) rezultat su zajedničkog rada devet glavnih europskih stručnih društava koja se bave tom tematikom. Najvažnije razlike u usporedbi sa prethodnim Europskim smjernicama o prevenciji KVB koje su bile objavljene 2007. godine su, da za razliku od njih u kojima su asimptomatske osobe bile podijeljene u svega dvije skupine — one s velikim i one s malim rizikom za KVB, u novim smjernicama postoje četiri razine rizika: vrlo veliki, veliki, umjereni i mali. Nove smjernice preporučuju da se procjene čimbenici rizika u svih muškaraca starijih od 40 godina i svih žena starijih od 50 godina, ali i mladih ako su u postmenopauzi. U ovim je smjernicama više europskih zemalja nego u prethodnim svrstano među zemlje s niskim rizikom, a naglašena je također važnost psihosocijalnih čimbenika rizika. Novost je i koncept tzv. “dobi rizika”. Naime, rizik mlađe osobe koja ima nekoliko čimbenika rizika za KVB je jednak onom kojeg ima znatno starija osoba ali koja nema čimbenike rizika. Naglašeno je da bi sve osobe s povišenim arterijskim tlakom (AT) trebale promijeniti način života u zdraviji, da su svi glavni antihipertenzivi zapravo otprilike podjednakih učinaka u kliničkoj primjeni te da je za sve osobe ciljani AT <140/90 mmHg. U bolesnika s dijabetesom, kada se radi o prevenciji KVB, ciljna vrijednost HbA1c je <7,0% (<53mmol/mol), ciljna vrijednost AT je <140/80 mmHg i preporučuje se uzimanje statina kako bi se smanjio rizik. Za bolesnike s vrlo velikim rizikom ciljna vrijednost LDL-kolesterola je <1,8mmol/l (<80mg/dl), za one s velikim rizikom <2,5mmol/l (<100mg/dl), a za sve ostale je <3,0mmol/l (<115mg/dl). Naravno da nitko ne bi trebao pušiti, ali je novost to što se preporučuje i izbjegavanje pasivnog pušenja jer i ono povećava rizik od KVB.

KLJUČNE RIJEČI: kardiovaskularni rizik, arterijski tlak, kolesterol, diabetes mellitus, pušenje.

SUMMARY: New European guidelines on cardiovascular disease (CVD) prevention in clinical practice reflect the consensus of nine major European professional societies dealing with this topic. The main differences when compared with the previous European guidelines on CVD prevention issued in 2007 are that unlike these previous guidelines which had a split up of the asymptomatic population into only two groups — those with high and those with low CVD risk, in the new guidelines four levels of CVD risk exist: very high, high, moderate and low risk. In the new guidelines it is recommended that risk factor screening should be considered in adult men ≥ 40 years and in women ≥ 50 years of age or if postmenopausal. More European countries are at low risk than in previous guidelines and the importance of psychosocial risk factors is stressed. The novelty is also the risk age concept. Naimly, the risk age of a younger person with several CVD risk factors is the same as that of a significantly older person with no risk factors. Concerning blood pressure (BP) it is stressed that lifestyle measures are needed for all hypertensive patients, that all the major antihypertensives are more or less equal for clinical use and that target BP is <140/90 mmHg. In patients with diabetes target HbA1c for CVD prevention is <7.0% (<53mmol/mol), target BP is <140/80 mmHg and statins are recommended to reduce cardiovascular risk. Target LDL-cholesterol for very high risk patients is <1.8mmol/L (<80 mg/dL), for high risk patients <2.5 mmol/L (<100 mg/dL) and for all others <3.0 mmol/L (<115 mg/dL). Of course, all smoking has to be avoided but the novelty is that exposure to passive smoking should be avoided as well since it also increases risk of CVD.

KEYWORDS: cardiovascular risk, blood pressure, cholesterol, diabetes mellitus, smoking.

CITATION: *Cardiol Croat.* 2012;7(11-12):310-315.

Na Europskom kardiološkom kongresu u Münchenu krajem kolovoza 2012. godine predstavljene su nove Europske smjernice o prevenciji kardiovaskularnih bolesti (KVB) u kliničkoj praksi koje su istodobno tiskane u službenim glasilima Europskog kardiološkog društva (ESC) i Europskog društva za aterosklerozu — *European Heart Journal* i *Atherosclerosis*^{1,2}. Vjerojatno će smjernice ubrzo biti objavljene i u časopisima ostalih najznačajnijih europskih stručnih i znanstvenih društava iz tog područja koja su sudjelovala u njihovom stvaranju (a bilo ih je ukupno devet), od onog za arterijsku hipertenziju do onog za dijabetes ili pak onih za moždani udar i opću/obiteljsku medicinu.

Da se odgovori na pitanje iz naslova članka valja usporediti ove smjernice s prethodnim zajedničkim europskim smjernicama za prevenciju KVB koje su bile objavljene 2007. godine³. Osim činjenice da su ove smjernice po opsegu jednake tzv. "executive summary" prethodnih smjernica, odnosno da su značajno kraće te da su popraćene s još kudikamo značajnije sažetom džepnom verzijom, ali i sažetkom na jednoj stranici koji će biti posebno koristan liječnicima obiteljske medicine koji izloženi brojnim smjernicama iz različitih područja medicine nemaju vremena čitati opširne tekstove. Od novosti najprije treba spomenuti način evaluacije podataka. Naime, osim stupnjevanja preporuka i razine dokaza kakvi postoje i u drugim preporukama ESC, u ovim je preporukama po prvi puta primijenjeno stupnjevanje prema GRADE sustavu⁴. Taj sustav ima samo dvije kategorije preporuka koje bi se pojednostavljeno mogle objasniti kao: "to treba raditi" ili "to ne treba raditi". Pritom taj sustav razlikuje kvalitetu dokaza od snage preporuka, jer jaki i uvjerljivi dokazi temeljeni na kriterijima ESC ne moraju, iako to može u prvi mah zvučati čudno, odmah nužno voditi do jake preporuke i obrnuto. Takav je pristup u ovim smjernicama prihvaćen jer se pri uobičajenom stupnjevanju ESC daleko najveća pozornost posvećuje randomiziranim kontroliranim ispitivanjima koja su u pravilu orijentirana ka ispitivanju učinaka lijekova, dok su populacijska istraživanja slabo vrednovana, a ona su, kada je riječ o prevenciji KVB, itekako značajna i važna. Primjer za to može biti činjenica da razinu dokaza A sukladno kriterijima ESC mogu dobiti samo preporuke temeljene na podacima više velikih randomiziranih kliničkih ispitivanja pa slijedom toga zabrana pušenja nikad ne bi mogla dobiti tu razinu dokaza jer u svezi s pogibelji od pušenja naprosto takva ispitivanja ne postoje niti će ikada biti načinjena i to iz cijelog niza razloga, od onih etičkih pa do mnogih drugih.

Druga je bitna novost i razlika prema prošlim zajedničkim europskim smjernicama za prevenciju KVB podjela stupnjeva rizika na četiri razine sukladno SCORE sustavu: vrlo visoki, visoki, umjereni i niski rizik. Doduše, ta se podjela već pojavila u Europskim smjernicama za liječenje dislipidemija objavljenim prošle godine, s kojima su ove nove zajedničke smjernice za prevenciju KVB u potpunom suglasju^{5,6}. Ta je nova podjela važna zato jer je, iako je rizik zapravo dio kontinuuma, iz praktičnih razloga u svakodnevnom radu potrebno imati neke uporišne točke odnosno razdjelnice. Podjela kakva se rabila u prethodnim zajedničkim europskim smjernicama za prevenciju KVB za osobe bez dokazane KVB samo na dvije skupine: one s povećanim rizikom (SCORE >5%) koje treba liječiti (što su liječnici pod snažnim utjecajem farmaceutske industrije u pravilu tumačili isključivo potrebom za propisivanjem lijekova) i one s rizikom <5% koje se uopće nije liječilo, nije više bila prihvatljiva. Upravo je stoga u ovim novim smjernicama primijenjen sustav stupnjevanja ukupnog rizika KVB u četiri kategorije. Naime, uvidjelo se da pozornost ne treba posvećivati samo osobama s

At the end of August 2012, the new European guidelines on cardiovascular disease (CVD) prevention in clinical practice were introduced at the European Society of Cardiology Congress in Munich and they were simultaneously published in the official journals of the European Society of Cardiology (ESC) and European Atherosclerosis Society — *European Heart Journal* and *Atherosclerosis*^{1,2}. The guidelines are likely to be soon published also in journals of other major European professional and scientific societies in that area that participated in their creation (there were nine of them) starting from the hypertension to diabetes, or stroke and general/family practitioners.

In order to answer the question posed in the title of this article, we should compare these guidelines to the former common European guidelines for the prevention of CVD, which were published in 2007³. Apart from the fact that according to their volume, these guidelines are equivalent to the "Executive summary" of former guidelines, they are much shorter and they are accompanied by a highly abridged pocket version and also by a one-page summary, which will be particularly useful for general practitioners who being exposed to a number of guidelines in different areas of medicine do not have time to read such comprehensive texts. The manner of evaluating data is also a novelty. Besides the classification of the recommendations and level of evidence contained in other ESC recommendations, for the first time these recommendations include the grading according to the GRADE system⁴. This system contains only two categories of recommendations that could be simply explained as "it should be done" or "it should not be done." In doing so, this system distinguishes between the quality of evidence and the power of recommendations because strong and convincing evidence based on the ESC criteria need not necessarily lead to a strong recommendation and vice versa even though it may sound strange at a first glance. This approach has been adopted in these guidelines, because while doing normal ESC grading, the greatest attention is attached to randomized controlled trials, which are principally focused on evaluating the effects of drugs, while the population trials were poorly evaluated and they are, when it comes to the prevention of CVD, very significant and important. An example for this can be the fact that according to the ESC criteria, the A level of evidence can be assigned to the recommendations based on data from several large randomized clinical trials and consequently the beneficial effects of smoking could never be assigned this level of evidence, because there are no such trials and there will never be such trials relating to the danger of smoking for a number of reasons, such as ethical and many other cessation.

Another important novelty and the difference compared to the previous ESC Guidelines on CVD prevention is the classification of risk into four levels according to SCORE system: very high, high, moderate and low risk. However, this classification already appeared in the European guidelines for the management of dyslipidemias published last year, that these new common guidelines for CVD prevention are fully complied with^{5,6}. This new classification is important because, although the risk is actually a part of the continuum, for practical reasons it is necessary to have some separation points in a daily work. The division that was used in the former common European guidelines for the CVD prevention for the persons without proven CVD only into the two groups: those at a high risk (SCORE >5%) that need to be treated (which was interpreted by physicians strongly influenced by the pharmaceutical industry as a necessity for prescribing drugs) and those with a risk <5% that were not treated at all, was no longer acceptable. For this particular reason the system of grading the total CVD risk into four categories was applied. It was actually recognized that the at-

visokim rizikom i samo njih liječiti već je itekako valja posvetiti i onima s umjerenim rizikom, koji su zapravo u većini, pa slijedom toga i oni trebaju barem dobiti ozbiljan i kvalificiran savjet o promjeni nezdravog načina života a neki od njih i lijekove.

Spomenute su četiri kategorije rizika definirane na slijedeći način. **Vrlo veliki rizik** imaju oni koji imaju bilo što od navedenoga: dokazanu KVB i to bilo invazivnim bilo neinvazivnim metodama (koronarna angiografija, nuklearne metode oslikavanja, stres ehokardiografija, karotidni plak dokazan ultrazvučno), preživjeli infarkt miokarda, akutni koronarni sindrom, koronarnu revaskularizaciju (perkutana koronarna intervencija ili operacija premoštenja) i ostali postupci arterijske revaskularizacije, preživjeli ishemijski moždani udar, perifernu arterijsku bolest, dijabetes (tip 1 ili tip 2) s jednim ili više čimbenika rizika i/ili oštećenjem ciljnih organa (primjerice mikroalbuminurija: 30-300mg/24h), tešku kroničnu bubrežnu bolest (glomerulska filtracija <30 mL/min/1,73m²) ili pak SCORE ≥ 10%. **Veliki rizik** imaju oni koji imaju značajno izražen jedan čimbenik rizika, primjerice imaju nasljednu obiteljsku dislipidemiju ili tešku arterijsku hipertenziju ili dijabetes (tip 1 ili tip 2) ali bez čimbenika rizika ili oštećenja ciljnih organa ili umjereno izraženu kroničnu bolest bubrega (glomerulska filtracija 30-59 mL/min/1,73m²) ili pak SCORE ≥ 5%. **Umjereni rizik** imaju oni sa SCORE ≥ 1 a <5%, a **mali rizik** oni sa SCORE <1% koji nemaju nikakvih drugih obilježja koja bi ih svrstala u skupinu s umjerenim rizikom.

U ovim je novim smjernicama još jače nego u prethodnim naglašena potreba da kada se procjenjuje rizik KVB uvijek treba procjenjivati ukupni rizik, a ne samo obračati pozornost na jedan čimbenik rizika. Pritom je naglašeno da je prevencija KVB cjeloživotni proces koji se itekako isplati, ne samo jer se time spašavaju ljudski životi, već je i financijski isplativ za zdravstvene sustave. Ukupan rizik treba procjenjivati na temelju, u praksi već godinama primijenjivanih i dobro provjerenih u nizu europskih zemalja, SCORE tablica koje se temelje na podacima o ukupnom kolesterolu, arterijskom tlaku (AT), pušenju, životnoj dobi i spolu. U njima je apsolutni rizik izražen kao rizik da osoba umre od nekog kardiovaskularnog događaja u sljedećih deset godina. Jedna od novosti u ovim smjernicama su dodatne tablice u koje je uvršten i HDL-kolesterol kao pokazatelj koji značajno doprinosi procjeni ukupnog rizika što je također potpuno sukladno sa Europskim smjernicama o liječenju dislipidemija^{5,6}. Tablice su dostupne u elektroničkoj verziji i to u interaktivnom obliku na www.heartscore.org.

Na temelju epidemioloških podataka došlo je i do novog svrstavanja zemalja u SCORE tablicama rizika, ovisno o riziku za KVB kojem je njihovo pučanstvo izloženo, a koje je drugačije nego ono u prethodnim smjernicama. Tako su neke zemlje zbog poboljšane situacije u njima tijekom proteklih godina promijenile svoj status i prešle iz kategorije velikog rizika u kategoriju malog rizika, primjerice nama susjedna Slovenija, ali također i Irska te Velika Britanija. Hrvatska je, na žalost, ostala i dalje među zemljama velikog rizika za KVB. Stanje u nas je, naravno, bolje nego ono u nekim zemljama koje se ubrajaju u zemlje vrlo velikog rizika, kao što su primjerice Rusija i većina zemalja bivšeg Sovjetskog Saveza te Bugarska i Makedonija, no to nas nikako ne može i ne smije zadovoljavati. To je svrstavanje vrlo važno jer se, ovisno o stupnju rizika zemlje, uporabom odgovarajuće vrste SCORE tablica (za zemlje s niskim ili one s visokim rizikom) na temelju postojanja čimbenika rizika za

attention is not only to be paid to high risk persons and that they are the only ones who should be treated, but the attention should also be paid to those at a moderate risk, who are actually in the majority, and consequently they should at least receive serious and qualified advice on changing their unhealthy way of life and some of them should even be treated with drugs.

The above mentioned four risk categories are defined in the following way: **Very high risk** have those who have anything of the following: proven CVD diagnosed either by means of invasive or noninvasive methods (coronary angiography, nuclear imaging methods, stress echocardiography, carotid plaque detected by ultrasound), history of myocardial infarction, acute coronary syndrome, coronary revascularization (percutaneous coronary intervention or bypass surgery) and other arterial revascularization procedures, a history of ischemic stroke, peripheral artery disease, diabetes (type 1 or type 2) with one or more risk factors and/or target organ damage (e.g. microalbuminuria: 30-300 mg/24h), severe chronic kidney disease (glomerular filtration rate <30 mL/min/1,73m²) or SCORE ≥ 10%. **High risk** have those who have significantly pronounced one risk factor, e.g. they have familial dyslipidemia or severe arterial hypertension or diabetes (type 1 or type 2), but without risk factors or target organ damage or a moderately pronounced chronic kidney disease (glomerular filtration rate 30-59 mL/min/1,73m²) or SCORE ≥ 5%. A **moderate risk** have those with SCORE ≥ 1 a <5%, and a **low risk** have those with <1% who have no other characteristics that would classify them into a moderate risk group.

These new guidelines emphasize the need for evaluating a total risk always when the CVD risk is to be evaluated to a much greater extent than the former guidelines stressing that it is not only one risk factor that needs to be taken into consideration. It is emphasized that the prevention of CVD is a lifelong process that certainly pays off, not only because human lives are saved in this way, but it is also financially cost-effective for healthcare systems. The total risk should be evaluated on the basis of the SCORE tables that have been used in medical practice for many years and that are well proven in a great number of European countries and they are based on data on total cholesterol, blood pressure (BP), smoking, age and gender. They present the absolute risk as the risk of dying of a person from some of the cardiovascular events in the next 10 years. One of the novelties in these guidelines are additional tables which include HDL cholesterol as a risk factor that greatly contributes to the evaluation of the total risk which is also entirely compliant with the European Guidelines for management of dyslipidemias^{5,6}. The tables are available in the electronic interactive format at www.heartscore.org.

Epidemiological data formed a basis for the creation of a new classification of the countries in the SCORE risk tables depending on the CVD risk that their population is exposed to, and which is different from the one presented in the former guidelines. So, some countries have due to the improved situation changed their status in the guidelines during the past few years and moved from a high-risk category to a low risk category, e.g. neighboring Slovenia, Ireland and United Kingdom. Unfortunately, Croatia has remained among the countries with a high CVD risk. The situation in our country is naturally better than the situation in some countries which are among the countries with a very high risk, such as Russia and most countries of the former Soviet Union, Bulgaria and Macedonia, but this can be no comfort for us. This classification is very important because depending on the risk level of a country, a cardiovascular risk is calculated for individuals in such a country based on the existence of

KVB izračunava kardiovaskularni rizik pojedinaca u toj zemlji.

Jedna od važnih novosti je i koncept tzv. "dobi rizika". O čemu se zapravo radi? Naime, uočeno je da je životna dob rizika mlađe osobe koja ima nekoliko čimbenika rizika podjednaka značajno starijoj osobi ali koja nema tih čimbenika rizika. Tako je, primjerice, iz tablica rizika koje su kao novost uklopljene u ove nove smjernice razvidno da muškarac pušač u dobi od četrdeset godina s vrijednostima ukupnog kolesterola 6mmol/l i sistoličkog AT 180 mmHg ima podjednaki rizik smrti od KVB u sljedećih deset godina kao muškarac star 60 godina ali koji ne puši, ima vrijednost ukupnog kolesterola 4 mmol/l, a sistolički AT 120 mmHg. Dakle, dob rizika mlađeg muškarca, iako ima 40 godina je zapravo 60 godina.

Sukladno novim smjernicama pretraživanje populacije na čimbenike kardiovaskularnog rizika trebalo bi provoditi u svih muškaraca starijih od 40 godina i u žena starijih od 50 godina, ali i u onih mlađih ako su već ušle u postmenopauzu. To je novi pristup koji nije bio spomenut u ranijim smjernicama.

Značajna novost u novim smjernicama je i u tome što je mnogo veća pozornost posvećena psihosocijalnim čimbenicima kardiovaskularnog rizika (osim što pozornost, naravno, i dalje treba posvećivati poznatim čimbenicima kao što su poremećaji serumskih lipida, povišeni AT, pušenje, dijabetes, debljina i sl.). To su poglavito niski socioekonomski status, stres na poslu i u obitelji, nedostatak društvene potpore, nezaposlenost i strah od gubitka posla, depresija i sl. Osim što ti čimbenici izravno doprinose razvitku KVB te pogoršavaju klinički tijek i prognozu KVB, oni također ometaju promjenu načina života na bolje (primjerice te osobe češće puše) te ustrajnost u liječenju kao i uzimanje lijekova pa i time negativno utječu na KVB. Što se tiče pušenja, nove smjernice ne ukazuju samo na pogibelj pušenja i potrebu prestanka pušenja radi prevencije KVB već navode i niz dokaza o opasnosti izloženosti pasivnom pušenju za nastanak KVB pa bi stoga i pasivno pušenje svakako trebalo izbjegavati.

Iako se mnogo očekivalo od tzv. novih čimbenika rizika kao što su visoko osjetljivi CRP, fibrinogen, homocistein i sl., na temelju analize svih do sada objavljenih istraživanja nove smjernice upućuju da ti čimbenici relativno skromno doprinose procjeni rizika te da ih ne treba rutinski određivati u osoba koje imaju mali rizik, ali niti u onih s velikim rizikom s ciljem procjene 10-godišnjeg rizika od KVB.

Novost je i to da bi, budući se ti poremećaji povezuju s rizikom KVB, svakako trebalo procijeniti rizik te načiniti određivanje lipida i izmjeriti AT svima koji imaju apneje u snu, muškarcima koji imaju erektilnu disfunkciju, bolesnicima s autoimunim bolestima, periodontitisom, a posebno onima s kroničnom bolešću bubrega.

Kako su novija istraživanja ukazala da nije potrebno toliko jako snižavati povišeni AT kao što se to mislilo na temelju nekih ranijih istraživanja, novost je i to da se smatra da je povišeni AT samo onaj viši od 140/90 mmHg, no svakako bi trebao imati tlak niži od toga. To vrijedi i za bolesnike s dijabetesom za koje se ranije preporučivalo da im AT treba smanjivati lijekovima na vrijednosti značajno niže od ove. Dijabetičarima se u ovim smjernicama preporučuje AT niži od 140/80mmHg dok bi im HbA1c trebao biti niži od 7%. Prema tome, to je najbolji dokaz da nije točno (kao što neki često površno navode) da se ciljne vrijednosti određenih pokazatelja u svakim novim smjernicama stalno samo snižavaju, već se one mijenjaju (ako se uopće mijenjaju) is-

CVD risk factors by using an appropriate score table (for countries at a low or those at a high risk).

One of the important novelties is the concept of the so called "risk age". What is risk age? We actually observed that the risk age of a younger person that has several risk factors considerably equals the age of risk of an older person, but who has no such risk factors. Thus, for example, the tables of risk which are as a novelty incorporated into these new guidelines clearly show that a male smoker aged 40 years with a total cholesterol of 6mmol/l and the systolic BP 180 mmHg has the same risk of death from CVD in the next 10 years as a man aged 60, but who does not smoke, has a total cholesterol 4mmol/l, and the systolic BP 120 mmHg. To conclude, the risk age of a younger man is 60 years, although he is actually 40.

In accordance with the new guidelines, the screening of the population on cardiovascular risk factors should be conducted in all men over 40 and women over 50, but also in the younger ones if they have already entered the post-menopause. This is a new approach which has not been mentioned in the former guidelines.

An important novelty in the new guidelines is that much more attention is paid to psychosocial cardiovascular risk factors (except that the attention is naturally still to be paid to the well-known factors such as dyslipidemia, elevated BP, smoking, diabetes, obesity, etc.). These are primarily low socioeconomic status, stress at work and in the family, lack of social support, unemployment and fear of losing the job, depression, etc. Besides the fact that these factors directly contribute to the development of CVD and impair the clinical course and prognosis of CVD, they also hinder a change to the lifestyle for the better (for example, such persons smoke more often), and persistence in the treatment and taking drugs, and thereby adversely affect CVD. As for smoking, the new guidelines do not only point to the danger of smoking and the necessity to stop smoking for the purpose of preventing CVD, but also present significant evidence about the danger of exposure to second-hand smoke for occurrence of CVD which is why passive smoking should be avoided in any case.

Although a lot was expected from the so-called new risk factors such as highly sensitive CRP, fibrinogen, homocysteine etc., based on the analysis of all investigations published so far, the new guidelines indicate that such factors relatively modestly contribute to the risk assessment and they should neither be determined routinely in persons at low risk nor in those at high risk with an aim of assessment of the 10-year CVD risk.

The novelty is that since such disorders are associated with the CVD risk, the risk has to be assessed and lipids and BP have to be measured in all those having sleep apnea, an erectile dysfunction, patients suffering from autoimmune diseases, periodontitis and especially those suffering from chronic kidney disease.

As some more recent investigations have showed no need to greatly lower the elevated BP as was thought on the basis of some earlier investigations, the novelty is also that only BP over 140/90 mmHg is to be considered elevated and everybody should have the BP lower than that. This applies to the diabetic patients who were previously advised that their BP should by taking drugs be lowered to the values significantly below this value. Diabetic patients are according to these guidelines advised to have BP lower than 140/80 mmHg, while their HbA1c should be lower than 7%. Accordingly, this is the best evidence that it is not true (as according to some superficial allegations) that the target values of certain indicators in all new guidelines are only con-

ključivo utemeljeno na znanstvenim dokazima koji su se pojavili nakon objave prethodnih smjernica. Primjena acetilsalicilatne kiseline se ne preporučuje bolesnicima s dijabetesom koji nemaju klinički dokazno aterosklerotsko suženje arterija.

Kada je riječ o poremećajima lipida ove su smjernice, kako je već i ranije spomenuto, u potpunom suglasju s Europskim smjernicama za liječenje dislipidemija⁵⁻⁷. Slijedom toga u bolesnika s vrlo velikim rizikom KVB, LDL-kolesterol treba smanjiti na ispod 1,8mmol/l odnosno za najmanje 50% ako se ova ciljna vrijednost nikako ne može postići. U osoba s velikim rizikom za KVB valja postići LDL-kolesterol manji od 2,5 mmol/l. Osobe s umjerenim i one s malim rizikom za KVB trebaju imati LDL-kolesterol manji od 3,0 mmol/l. Bolesnici s obiteljskom hiperkolesterolemijom neovisno o koncentraciji LDL-kolesterola trebaju biti shvaćeni kao bolesnici s velikim rizikom i mora ih se liječiti lijekovima kako bi se postigla koncentracija LDL-kolesterola manja od 2,5 mmol/l, a ako imaju i dokazanu KVB treba ih liječiti kao osobe s vrlo velikim rizikom i postići vrijednosti LDL-kolesterola manje od 1,8 mmol/l. Bolesnici s dijabetesom, osobito oni s tipom 2 trebali bi, bez obzira na razinu LDL-kolesterola, dobivati statine da smanje svoj kardiovaskularni rizik. Posebno se ističe da su okluzivna arterijska bolest nogu i aterosklerotska bolest karotida te kronična bubrežna bolest (stupnjevi 2-4, tj. glomerulska filtracija <90 ml/min/1,73m²) zapravo stanja koja predstavljaju jednak rizik kao i dokazana koronarna bolest srca, pa i ti bolesnici trebaju dobivati lijekove za dislipidemije. Budući da mnogi bolesnici imaju poremećaje lipida kod kojih su uz LDL-kolesterol povećani i trigliceridi te smanjen HDL-kolesterol ili im se davanjem samo statina čak i u većim dozama ne uspijeva postići ciljna vrijednost LDL-kolesterola, značajna je pozornost u ovim smjernicama posvećena i liječenju dislipidemija kombinacijama više lijekova⁸.

Kao i kod svih drugih smjernica, utjecaj i važnost ovih smjernica ovisit će isključivo o tome koliko će ih kardiolozi primjenjivati u svakodnevnoj praksi i koliko će ih se njihovi bolesnici pridržavati. Budući se radi o smjernicama za prevenciju KVB, one bi trebale imati bitan utjecaj i na prevenciju KVB u pučanstvu uopće, no i to će ovisiti isključivo o tome koliko će ih primjenjivati poglavito liječnici obiteljske/opće medicine, ali i diabetolozi, internisti, kardiolozi i svi ostali liječnici, jer su one itekako i njima namijenjene.

Naravno da svaka zemlja, pa tako i naša, može ako to želi načiniti vlastite smjernice koje, međutim, ne bi trebale biti u bitnom nesuglasju s ovim europskim smjernicama. Što se pak tiče smjernica nacionalnih zdravstvenih osiguravajućih sustava, one su nešto potpuno različito od smjernica koje donosi bilo europsko bilo neko nacionalno kardiološko društvo, jer su one utemeljene prvenstveno na financijskim mogućnostima osiguravatelja, a ne na znanstvenim spoznajama na kojima se temelje smjernice kardioloških društava. Stoga je potpuno ispravan stav o neprimjerenosti izravnog preuzimanja smjernica osiguravatelja od strane strukovnih organizacija koji je nedavno izražen u uvodniku objavljenom u časopisu *Cardiologia Croatica*⁹.

Received: 9th Oct 2012; Updated: 10th Oct 2012

*Address for correspondence: Klinički bolnički centar Zagreb, Kišpatičeva 12, HR-10000 Zagreb, Croatia.

Phone: +385-1-2376041

Fax: +385-1-2388623

E-mail: zreiner@kbc-zagreb.hr

tinuously lowered, but they change (if they change at all) only based on scientific evidence that occurred after the publication of the previous guidelines. The use of aspirin is not advised to the diabetic patients who have no clinically proven atherosclerotic changes of arteries.

When it comes to dyslipidemias, these guidelines are, as previously mentioned, completely compliant with the European guidelines for the management of dyslipidemia⁵⁻⁷. Consequently, LDL cholesterol should be lowered to below 1.8 mmol/l or by a minimum of 50% in very high risk patients if such target value may not be achieved in any way. LDL cholesterol should be lowered to below 2.5 mmol/l in high risk patients. Persons at moderate and those at high risk for CVD should have LDL cholesterol lower than 3.0 mmol/l. The patients with familial hypercholesterolemia should be treated as the high risk patients irrespective of the LDL cholesterol concentration and they should be treated by drugs to achieve the LDL-cholesterol concentration below 2.5 mmol/l, and if they have proven CVD they need to be treated as very high risk persons and they should achieve LDL-cholesterol values below 1.8 mmol/l. Diabetic patients, especially those with type 2 diabetes, should, irrespective of the LDL cholesterol level, be treated with statins to reduce their cardiovascular risk. It is especially worth mentioning that the peripheral arterial disease and carotid atherosclerotic disease and chronic kidney disease (grade 2-4, that is, glomerular filtration <90 ml/min/1,73m²) are actually conditions that pose the same risk as the proven coronary disease, so such patients should be treated with lipid-lowering drugs. Since many patients have dyslipidemia who in addition to LDL-cholesterol also have elevated triglycerides and low HDL-cholesterol or in whom the treatment with only statins even though administered in greater doses cannot result in achievement of the target value of LDL cholesterol, a great attention in these guidelines is drawn to the treatment of dyslipidemia by combining several drugs⁸.

As in case of any other guidelines, the impact and importance of these guidelines shall depend only on how the cardiologists will apply them in their daily practice and to what extent their patients will adhere to them. Since the guidelines for CVD prevention are in question, they should have a significant impact on the CVD prevention in population in general, but it will only depend to what extent they will be implemented by family/general practitioners, diabetologists, internists, cardiologists and all other physicians because the guidelines are certainly intended to them as well.

National guidelines may be produced by every country, and our country as well, which guidelines should not greatly differ from the European guidelines. Regarding the guidelines of the national healthcare insurance systems, they are somewhat different from the guidelines produced by either European or any national society of cardiology, because they are mainly based on the insurers' financial position, not on the scientific evidence that the guidelines of the cardiology societies are based on. The position about how inappropriate it is for the professional organizations to directly accept the insurers' guidelines, which position has been recently publicized in the editorial of the *Cardiologia Croatica*⁹ is completely correct.

Literature

1. Perk J, De Backer G, Gohlke H, Graham I, Reiner Z, Verschuren WM, et al. European Guidelines on cardiovascular disease prevention in clinical practice (version 2012). The Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of nine societies and by invited experts). Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). Eur Heart J. 2012;33:1635-701.
2. Perk J, De Backer G, Gohlke H, Graham I, Reiner Z, Verschuren WM, et al; Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice; European Association for Cardiovascular Prevention and Rehabilitation. European Guidelines on cardiovascular disease prevention in clinical practice (version 2012): The Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of nine societies and by invited experts). Atherosclerosis. 2012;223(1):1-68.
3. Graham I, Atar D, Borch-Johnsen K, Boysen G, Burell G, Cifkova R, et al. European guidelines on cardiovascular disease prevention in clinical practice: executive summary. Eur Heart J. 2007; 28:2375-414.
4. Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, Schunemann HJ. What is "quality of evidence" and why is it important to clinicians? BMJ. 2008;336:995-8.
5. European Association for Cardiovascular Prevention & Rehabilitation, Reiner Z, Catapano AL, De Backer G, Graham I, Taskinen MR, Wiklund O, et al; ESC Committee for Practice Guidelines (CPG) 2008-2010 and 2010-2012 Committees. ESC/EAS Guidelines for the management of dyslipidaemias: the Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). Eur Heart J. 2011; 32:1769-818.
6. Reiner Ž. What is new in the first European Society of Cardiology and European Atherosclerosis Society Guidelines for the management of dyslipidaemias? Kardiol list. 2011;6:119-24.
7. Reiner Ž. New ESC/EAS Guidelines for the management of dyslipidemia - any controversies behind the consensus? Eur J Cardiovasc Prev Rehabil. 2011;18:724-7.
8. Reiner Ž. Combined therapy in the treatment of dyslipidemia. Fundam Clin Pharmacol. 2010;24:19-28.
9. Knežević A. Guidelines and evidence-based medicine. Cardiol Croat. 2012;7(5-6):143-5.

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