



Neke osobitosti prepoznavanja i liječenja zatajivanja srca u Republici Hrvatskoj

Some specific features of identification and treatment of heart failure in the Republic of Croatia

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Zatajivanje srca (ZS) predstavlja klinički sindrom, kojeg čine anamnestički (dispneja u naporu i/ili mirovanju), klinički simptomi (tahikardija, protodijastolički galop, kardiomegalija, znaci cirkulacijske kongestije) te neki laboratorijski otkloni kao što je povećana razina natriuretskog hormona.¹

Učestalost ZS je razmjerno velika: 1% do 3% populacije ima razvijene simptome popuštanja i isto toliko je onih potencijalnih bolesnika s asimptomatskim ZS. Učestalost ZS, međutim, raste s dobi, pa se iznad 75-te godine kreće čak između 10% i 20%.²

U etiologiji susrećemo čitavu lepezu različitih uzroka, od arterijske hipertenzije (AH) s pojavom atrijske fibrilacije, koronarne bolesti srca (koja je zastupljena u gotovo 70% bolesnika!), raznih bolesti miokarda (primarne i sekundarne kardiomiopatije) pa do toksičnih uzroka (alkohol), nekih lijekova (citotoksični lijekovi, antagonisti kalcija) ili nutritivskih (deficit tiamina, npr.) ili infiltracijskih (amiloidoza, npr.) čimbenika.³

Prepoznavanje bolesti poželjno je što ranije, prvenstveno ono kliničko.⁴ U nekim klinički nejasnim stanjima u dijagnostici je neophodno odrediti vrijednost serumskog NT-pro-BNP, koji ima i veliku prognostičku važnost.⁵

Posljednjih desetljeća kontrolirani klinički pokusi iznjedrili su, nakon digitalisa i diuretika i lijekove koji, ne poboljšavaju samo simptome i kakvoću života, već, što je daleko važnije, produžavaju život dekompenziranih kardiopata. Tu spadaju neki beta-blokatori (metoprolol, karvedilol, bisoprolol, nebivolol), ACE inhibitori (lizinopril, enalapril, ramipril, kaptopril, perindopril), blokatori angiotenzinskih receptora (valsartan, kandesartan), blokatori aldosterona (spironolakton, eplerenon) i ivabradin.⁶

Ipak, smrtnost od ZS ostaje još uvijek neprihvatljivo visoka. Zbog ovoga, Europsko kardiološko društvo (ESC) svake četiri godine izdaje Smjernice za dijagnostiku i liječenje zatajivanja srca s ciljem smanjenja učestalosti i smrtnosti od ove bolesti.⁶ Isti je smisao i Hrvatskog registra bolesnika sa zatajivanjem srca koji funkcionira online, za bolničke bolesnike, od listopada 2005. godine. Uspoređujući rezultate Registra s Europskim smjericama, namjera je unaprijediti dijagnostiku i liječenje ovog razmjerno učestalog i visoko rizičnog stanja (petogodišnje preživljavanje je manje nego u bolesnika s karcinomom pluća bez metastaza, npr.) u nas.

Na godišnjem Kongresu o zatajivanju srca u Gothenburgu (svibanj 2011.) značajan dio kongresa bio je posve-

Heart failure (HF) is a clinical syndrome, which includes history (dyspnea in stress and/or rest), clinical symptoms (tachycardia, protodiastolic gallop, cardiomegaly, signs of circulatory congestion), and some laboratory deviations such as increased levels of natriuretic hormone.¹

The incidence of HF is relatively high: 1% to 3% of the population has developed overt symptoms and as many of those potential patients with asymptomatic HF. The incidence of HF, however, increases with age, and over 75, it even ranges between 10% and 20%.²

Concerning the etiology, we face a whole range of different causes from arterial hypertension (AH) with incidence of atrial fibrillation, coronary heart disease (which is present in almost 70% of patients!), various myocardial diseases (primary and secondary cardiomyopathy) to toxic causes (alcohol), some drugs (cytotoxic drugs, calcium antagonists) or nutritional (thiamine deficiency, for example) or infiltration (amyloidosis, for example) factors.³

Identification of diseases is to be detected as early as possible especially the clinical identification is desirable.⁴ In some clinically unclear situations in the diagnostics, it is necessary to determine the value of serum NT-pro-BNP, which has a great prognostic significance.⁵

During the last decade, the controlled clinical trials have after digitalis and diuretics produced the drugs which do not only improve the symptoms and quality of life, but, which is far more importantly, extend the life of decompensated patients suffering from cardiopathy. These are some beta-blockers (metoprolol, carvedilol, bisoprolol, nebivolol), ACE inhibitors (lizinopril, enalapril, ramipril, captopril, perindopril), angiotensin receptor blockers (valsartan, candesartan), aldosterone blockers (spironolactone, eplerenone) and ivabradine.⁶

Anyway, the mortality from HF still remains unacceptably high. Because of this, the European Society of Cardiology (ESC) issues every four years the Guidelines for the diagnostics and treatment of HF with an aim to reduce the incidence and mortality from this disease.⁶ The same also applies to the Croatian Registry of patients with HF which functions online, for in-hospital patients since October 2005. Comparing the results of the Registry with the European guidelines, the intention is to improve the diagnostics and treatment of this relatively frequent and high-risk condition (five-year survival is lesser than in patients with lung cancer without metastases, for example) in our country.

At the annual Heart Failure Congress in Gothenburg (May 2011), a significant part of the Congress was dedica-



ćen podacima iz nacionalnih Registara. Između ostalog, nađeno je da se resinkronizacijsko liječenje realizira u vrlo malom postotku bolesnika u kojih je ono inače indicirano. Sve više naglašava se monitoriranje bolesnika kod kuće (telefonom, internetom) gdje je, uz samokontrolu, vrlo važna uloga medicinske sestre.

ESC je proglasilo tekuću godinu, godinom nacionalnih Registara, što je posebno naglašeno na zadnjem Europskom kardiološkom kongresu (kolovoz 2011.). Smatra se, naime, da su poruke Registara snažne, jer je riječ o susljednim bolesnicima, za razliku od rezultata kontroliranih kliničkih pokusa, gdje se ipak radi o biranim bolesnicima. U svakom slučaju poruke Registara i kontroliranih kliničkih pokusa su, u najmanju ruku, komplementarne i temelj su racionalne dijagnostike i liječenja! Tako, npr. jedan od najdugovječnijih Registara s gotovo uključenih četrdesetak tisuća bolesnika je Švedski registar koji je "iznjedrio" podatke da je kandesartan bolji od losartana u liječenju dekompenziranih kardiopata!⁷

Donosimo podatke iz Hrvatskog registra bolesnika sa zatajivanjem srca s naglaskom na neke osobitosti glede etiologije, prepoznavanja i liječenja ZS, u bolničkim uvjetima.

Rezultati

U proteklih pet godina funkcioniranja Registra uključena su i analizirana 1.868 susljedna, u bolnici liječena, bolesnika sa ZS (prosječne dobi 74 god.), iz tri Klinička bolnička centra: Rijeke, Splita i Zagreba. Od toga, muškaraca je bilo 1.023 (54,7%) (prosječne dobi 71±11,9 god.) i 845 (45,2%) žena (prosječne dobi 77±9,9 god.). Akutno (*de novo*) ZS je dijagnosticirano u 625 (33,5%) bolesnika, dok se 1.243 (66,5%) manifestiralo akutizacijom kroničnog ZS.

Anamnestički podaci o koronarnoj bolesti srca zabilježeni su u 1.283 (68,7%) bolesnika, AH u 883 (47,3%), dijabetes (DM) tipa II u 573 (30,7%), a DM tipa I u 65 (3,5%) bolesnika. Bivših ili sadašnjih pušača bilo je gotovo 14,7%.

Vodeći predisponirajući čimbenici ("okidači") ZS bili su AH u 936 (50,8%) bolesnika, atrijska fibrilacija ili undulacija u 862 (46,1%) i infekcije u 282 (15,1%) bolesnika.

U NYHA razredu I bilo je 98 (5,2%) bolesnika, u NYHA razredu II 558 (29,9%), u NYHA III 623 (33,4%), a u NYHA IV 279 ili 14,9% bolesnika.

Na EKG-u, pri prijemu, zabilježena je fibrilacija ili undulacija atrija u 795 (42,6%) bolesnika, elektrostimulator srca registriran je u 95 (5,1%), supraventrikulaska tahikardija u 9 (0,5%), a ventrikulska u 13 (0,7%) bolesnika. Test na natriuretski peptid (BNP i NT-pro BNP test) izvršen je tek u 150 (8,0%) bolesnika!

Kardiomegalija je, na sumacijskoj snimci prsnog koša, nađena u 995 (53,3%) bolesnika, obostrani pleuralni izljev u 203 (10,9%), desnostrani pleuralni izljev u 170 (9,1%), a lijevostrani u 139 (7,4%) bolesnika.

Ultrazvučna pretraga srca realizirana je u tek 873 (46,7%) bolesnika. Srednja vrijednosti LVED promjera iznosila je 60,6±12,2 mm, a srednja LVEF 40,3%. Dijastolička disfunkcija tipa I je zabilježena u 77 (4,1%) bolesnika, tipa II u 244 (13,0%), a tipa III u 51 (2,7%) bolesnika. Bolnička smrtnost iznosila je 13,6%.

ted to data from national registries. It has been found that resynchronization therapy is performed in a very small percentage of patients in whom it was indicated. The monitoring of patients at home (telephone, Internet) is being increasingly emphasized, and besides the self-management, nurses play a very important role.

ESC has declared the current year to be the year of national Registries, which is especially emphasized in the latest ESC Congress (August 2011). The messages of the Registries are, namely, considered, to be strong messages, because successive patients are concerned, unlike the results of controlled clinical trials where selected patients are in question. In any case, the messages by the Registries and controlled clinical trials are, at least, complementary and are the basis of rational diagnostics and treatment! Thus, for example, one of the most long-lasting Registries with nearly forty thousand patients involved the Swedish Registry, which revealed the fact that the candesartan is better than losartan in the treatment of decompensated HF patients!⁷

Here we bring the data from the Croatian Registry of patients with HF with emphasis on some peculiarities regarding the etiology, identification and treatment of HF in hospital conditions.

Results

During the past five years of the Registry, 1,868 successive patients treated in hospital with HF (average age 74) have been included and analyzed from the three University Hospital Centers: Rijeka, Split and Zagreb. Of these, there were 1,023 (54.7%) men, (average age 71±11.9) and 845 (45.2%) women (average age 77±9.9). Acute (*de novo*) HF was diagnosed in 625 (33.5%) patients, while 1,243 (66.5%) patients had manifested acutization of chronic HF.

Anamnestic data on coronary heart disease was recorded in 1,283 (68.7%) patients, AH 883 (47.3%), type II diabetes (DM) in 573 (30.7%), and type I DM in 65 (3.5%) patients. There were almost 14.7% of former or current smokers.

The leading predisposing factors ("triggers") of HF were AH in 936 (50.8%) patients, atrial fibrillation/undulation in 862 (46.1%) and infection in 282 (15.1%) patients.

In NYHA class I, there were 98 (5.2%) patients, in NYHA class II there were 558 (29.9%) patients, in NYHA III there were 623 (33.4%) patients and in NYHA IV there were 279 or 14.9% of patients.

On ECG, upon admission, atrial fibrillation/undulation was recorded in 795 (42.6%) patients, the cardiac electrostimulator was registered in 95 (5.1%) patients, supraventricular tachycardia in 9 (0.5%), and ventricular in 13 (0.7%) patients. Test on the natriuretic peptide (BNP and NT-pro BNP test) was performed in only 150 (8.0%) patients!

Cardiomegaly was in chest X-ray found in 995 (53.3%) patients, bilateral pleural effusion in 203 (10.9%) patients, right-sided pleural effusion in 170 (9.1%), and left-sided in 139 (7.4%) patients.

Echocardiography was performed in only 873 (46.7%) patients. The mean value of LVED diameter was 60.6 ± 12.2 mm, and the mean LVEF was 40.3%. Diastolic dysfunction of type I was observed in 77 (4.1%) patients, type II in 244 (13.0%), and type III in 51 (2.7%) patients. Hospital mortality was 13.6%.



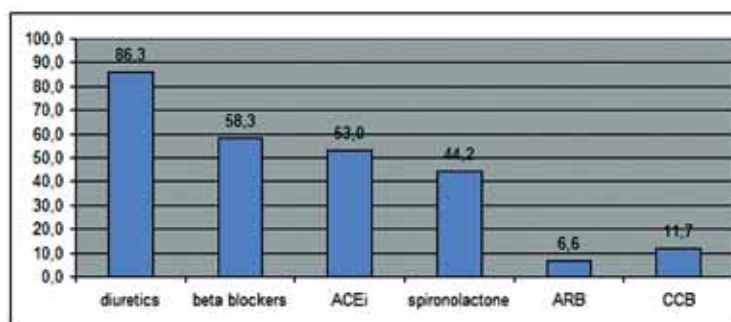
Najpropisivaniji lijekovi pri otpustu bili su diuretici u 1.612 (86,3%) bolesnika, ACE inhibitori u 990 (53,0%), beta-blokatori u 1.089 (58,3%), spironolakton/eplerenon u 825 (44,2%) bolesnika, a blokatori angiotenzinskih receptora tek u 123 (6,6%) bolesnika (**Slika 1**). Ostali često propisivani lijekovi bili su: digitalis (30%), oralni nitrati (10%), blokatori kalcijevih kanala (11,7%), antitrombotski lijekovi i hipolipemici.

Dnevna doza ACE inhibitora iznosila je za lizinopril 9 mg, ramipril 3,5 mg, trandolapril 1,8 mg, fosinopril 9 mg, cilazapril 3 mg, enalapril 6,8 mg, perindopril 3,4 mg, kaptopril 100 mg. Srednja dnevna doza za beta-blokatore bila je za bisoprolol 2,8 mg, karvedilol 26,1 mg.

The most prescribed medicines upon discharge were diuretics in 1,612 (86.3%) patients, ACE inhibitors in 990 (53.0%) patients, beta-blockers in 1,089 (58.3%) patients, spironolactone/eplerenone in 825 (44.2%) patients, and angiotensin receptor blockers in only 123 (6.6%) patients (**Figure 1**). Other frequently prescribed drugs were: digitalis (30%), oral nitrates (10%), calcium channel blockers (11.7%), antiplatelet drugs and hypolipemics.

Daily doses of ACE inhibitors was 9 mg for lisinopril, 3.5 mg ramipril, 1.8 mg for trandolapril, 9 mg for fosinopril, 3 mg for cilazapril, 6.8 mg for enalapril, 3.4 mg for perindopril, 100 mg for captopril. Mean daily dose of beta-blockers was 2.8 mg for bisoprolol and 26.1 mg for carvedilol.

Figure 1. The incidence of administration (prolonging survival) agents of heart failure patients during five-years of Croatian registry.



Zaključak

Naši bolesnici sa ZS pripadaju starijoj dobnoj skupini (stariji su od 70 god.). Polovica je u NYHA III i IV razredu. Akutna prezentacija ZS je nađena u trećine bolesnika. U anamnezi ovih bolesnika najčešće se susreće koronarna bolest srca, AH i DM. Vodeći predisponirajući čimbenici (tzv. okidači) ZS bili su AH, atrijska fibrilacija/undulacija atrijske i infekcije. Primjena natriuretskog peptida i ehokardiografije u dijagnostici ovih bolesnika, prevelika je. Propisivanje ACE inhibitora, beta-blokatora i blokatora angiotenzinskih receptora (lijekova koji dokazano produžuju život bolesnika sa ZS sukladno Europskim smjernicama) još uvijek je nedovoljno (i ispod razina preporučenih ciljnih dnevnih doza!). Sve ovo nas mora poticati na stalno usavršavanje, na reedukaciju gotovo svih profila liječnika, posebice onih koji su najodgovorniji za skrb ovih bolesnika, kao što su liječnici obiteljske medicine, internisti i posebice, kardiolozi.

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Conclusion

Our patients with HF are elderly persons (over 70 years of age). A half of them are classified in NYHA III and IV class. The acute presentation of HF was found in one third of patients. In history of these patients we commonly encounter coronary heart disease, AH and DM. The leading predisposing factors (the triggers) of HF were AH, atrial fibrillation/undulation and infections. The use of natriuretic peptides and echocardiography in the diagnostics of these patients is too low. The prescription of ACE inhibitors, beta-blockers and angiotensin receptor blockers (drugs that have proven to extend the life of patients with HF in accordance with the European guidelines) is still insufficient (and below the level of recommended target daily doses!). All this must encourage us to continuously improve, schedule re-education for almost all profiles of physicians, particularly for those who are the most responsible for the management of these patients, such as general practice physicians, internists and especially cardiologists.