Ostalo

30. kongres Europskog kardiološkog društva

Other

30th ESC Congress

Mijo Bergovec, Hrvoje Vražić
Dubrava Clinical Hospital, Zagreb

Ovogodišnji kongres Europskog kardiološkog društva održao se u Münchenu u Njemačkoj od 30. kolovoza do 3. rujna 2008. godine. U pet dana održano je 363 blokova predavanja, kliničkih simpozija i seminara, s nešto malo manje od 5.000 prikazanih izlaganja. Broj sudionika je najveći do sada — 30.442 (uključuje aktivne sudionike i predstavnike industrije). Od oko 10.000 prijavljenih sažetaka 1.000 recenzenata izabralo je 3.532 koji su prihvaćeni za objavu na kongresu.

Za glavnu temu kongresa izabran je prikaz najnovijih dostignuća u području slikovnih metoda za prikazivanje kardiovaskularnog sustava. Naime, kako smo svjedoci sve bržeg razvoja slikovnih metoda koje nam danas pružaju

The ESC Congress was held in Munich, Germany this year, from 30th August to 3rd September 2008. In 5 days there were 363 lecture blocks, clinical symposiums and seminars were held, with somewhat less than 5000 lectures. We witnessed the largest number of participants at the Congress up to date — 30.442 (including active participants and industry representatives). From around 10.000 registered summaries, 1.000 reviewers selected 3.532 that were accepted for presentation at the Congress.

A review of the most recent achievements in the area of imaging methods for presenting cardiovascular system was selected as a main congress topic. Actually, since we have been witnessing ever faster development of imaging

mogućnost tro- i četverodimenzionalnog prikaza kardiovaskularnog sustava, na kongresu se nastojalo iznijeti najnovija dostignuća četiri neinvazivne metode prikaza: ehokardiografije, snimanja radiofarmacima, MRI i srčanog CT-a. Naglasak je bio na integraciji slikovnih metoda sa svakodnevnom praksom, pokušavajući dati odgovor na pitanje koja je slikovna metoda najpogodnija za kojeg bolesnika i pod kojim okolnostima. Stvorena je i nova supspecijalizacija kardiovaskularnog "imagera" čiji je zadatak prenošenje kliničkog upita do prikladnih metoda prikaza, a sve sa svrhom davanja kvalitetnijeg odgovora kliničarima. Predstavljena su i nastojanja Europskog kardiološkog društva u čijem radu su prošle godine sudjelovale 134 zemlje u svezi harmonizacije obrazovanja, specijalizacije i istraživanja u Europi.

Tijekom kongresa službeno su objavljene i nove Smjernice za liječenje zatajivanja srca[1], liječenje infarkta miokarda sa ST elevacijom, biopsije kod srčane bolesti i liječenje plućne embolije[2].

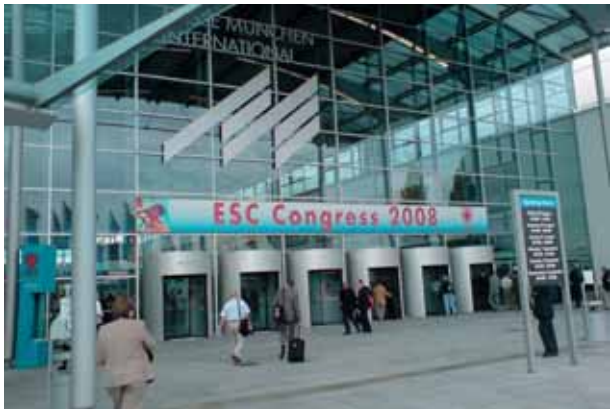
Smjernice o liječenju plućne embolije[2] uvode klasifikaciju plućne embolije prema procijenjenim ranim stopama smrtnosti koje se određuju pomoću nekoliko parametara: kliničkih kriterija (šok ili hipotenzija), biljega poremećene funkcije desnog ventrikula (ocjena proširenja desnog ventrikula upotrebom ehokardiografije ili CT-a, visoke razine BNP-a ili pro-BNP-a, visoki tlakovi u desnom ventrikulu dobiveni tijekom kateterizacije) te biljega koji ukazuju na oštećenje srčanog mišića (visoke razine troponina T ili I). Šok ili hipotenzija predloženi su kao pokazatelji visokog rizika. Prilikom postavljanja dijagnoze plućne embolije algoritam se oslanja na stupanj kliničke vjerojatnosti plućne embolije (visok, srednji ili nizak) uz upotrebu dokazanih pravila za predviđanje (Geneva Score ili Wells), te na čimbenike rizika, simptome i kliničke znakove. Glavni cilj predloženog dijagnostičkog algoritma je utvrđivanje rizika rane smrti kod bolesnika kod kojeg je postavljena sumnja na plućnu emboliju. Kod takvih bolesnika potrebno je rano napraviti CT, a kod bolesnika u kojih je prisutan visok rizik od pojave od plućne embolije i/ili ultrazvuk srca kako bi se otkrili indirektni znakovi značajne plućne hipertenzije i opterećenja desnog ventrikula, te potom moglo odlučiti o liječenju. Ukoliko CT nije dostupan, dovoljan je i visoko sumnjivi nalaz ehokardiografije za početak liječenja trombolitičkom terapijom. U liječenju bolesnika s plućnom embolijom koji su hipotenzivni indicirana je primjena noradrenalina, dok je kod normotenzivnih bolesnika s niskim srčanim indeksom indicirana primjena dobutamina i/ili dopamina. Tromboliza je indicirana kod bolesnika s plućnom embolijom s visokim rizikom pojave kardiogenog šoka i/ili perzistirajuće hipotenzije. Kirurško liječenje je rezervirano za bolesnike s visokim rizikom u kojih je tromboliza kontraindicirana ili nisu zadovoljavajuće odgovorili na primjenu trombolize, kao kod onih s otvorenim foramenom ovale ili s intrakardijalnim trombom. Alternativa kirurškom liječenju je perkutano liječenje, no za sada su dokazi za takvo liječenje slabi, te je indicirano samo kada je tromboliza kontraindicirana ili neuspješna. Antikoagulantno liječenje ima dvije faze: početno i dugoročno, cilj početnog liječenja je smanjiti rani rizik od smrtnog ishoda i ponavljajućih događaja. Venski filteri indicirani su kada je antikoagulantno liječenje apsolutno kontraindicirano ili kada postoji dugoročni visoki rizik ponovne pojave tromboze dubokih vena nogu. U slučaju prisutnosti intrakardijalnog tromba još

methods thus providing us three- and four-dimensional presentation of the cardiovascular system today, at the Congress we attempted to present the most recent achievements of the four non-invasive imaging methods: echocardiography, radiography by radiopharmacs, MRI and cardiac CT. The emphasis was placed on an integration of imaging methods with a daily practice, attempting to give an answer to a question as to which imaging method is the most suitable for what patient and under which conditions. A new subspecialization of the cardiovascular imager has been created, the task of which is transfer of a clinical inquiry to suitable imaging methods, all with the purpose of providing a better answer to clinicians. The European Society of Cardiology endeavors, in whose work 134 countries participated last year in connection with coordination of education, residency and researches in Europe, were presented.

During the congress, new guidelines for the treatment of heart failure[1], myocardial infarction with ST-elevation, biopsy with heart diseases and treatment of pulmonary embolism were published[2].

The guidelines about the treatment of pulmonary embolism[2] introduce a classification of pulmonary embolism according to evaluated early death rates determined by using several parameters: clinical criteria (shock or hypotension), marker of dysfunction of the right ventricle (expansion of the right ventricle diagnosed by using echocardiography or CT, high level of BNP or pro-BNP, high pressures in the right ventricle obtained during the catheterization), and markers indicating a damage of a heart muscle (high levels of troponine T or I). The shock or hypotension was suggested to be high risk indicators. When diagnosing pulmonary embolism, the algorithm is relied on a degree of a pulmonary embolism clinical probability (high, middle or low) thereby using proved prediction rules (Geneva Score or Wells) and on risk factors, symptoms and clinical signs. The main goal of the suggested diagnostic algorithm is the determination of early death risk with patients with whom there is a suspicion of pulmonary embolism. It is required for such patients to have CT performed, and patients possessing a high pulmonary embolism risk require echocardiography performed as to discover indirect signs of significant pulmonary hypertension and right ventricle load, as to be able to make a decision on treatment. If CT is not available, a highly suspicious echocardiography finding may be sufficient for the commencement of a treatment by thrombolytic therapy. While treating patients suffering from pulmonary embolism who are hypotensive, indicated is the use of noradrenaline, while with normotensive patients with low heart index indicated is the use of dobutamine and/or dopamine. Thrombolysis is indicated with patients with pulmonary embolism with a high risk of cardiogenic shock and/or persisting hypotension. Surgical treatment is reserved for high risk patients with whom thrombolysis has been contraindicated or who have not satisfactorily responded to a use of thrombolysis as with all those with open foramen ovale or with intracardiac thrombus. An alternative to a surgical treatment is percutaneous treatment, however, for the time being, this treatment has not shown good results, so, it is indicated only when the thrombolysis is contraindicated or inefficient. Anticoagulant treatment has two stages: initial and long-term, whereas the aim of the initial treatment is the reduction early risk of death outcome and recurring events. The venous filters are indicated when anticoagulant treatment is absolutely contraindicated and when there is a long-term

uvijek postoje kontroverze glede terapije, preporučena je tromboliza, ili čak kirurško liječenje ukoliko je prisutan i otvoreni foramen ovale.



Osvježene su i Smjernice za liječenje STEMI čija je zadnja inačica bila objavljena 2003. godine (trenutno u postupku objave u časopisu *European Heart Journal*, bit će prikazana i usporedba s američkim Smjernicama za STEMI). Neke od novosti uključuju preporuke za liječenje boli i anksioznosti, aritmija, akutnog zatajivanja srca i šoka[3]. Smjernice zorno prikazuju kako postupati sa bolesnicima ovisno o mjestu prvog kontakta s liječnikom, ukazuju na značaj korištenja vozila hitne medicinske pomoći, te odnos prema bolnici ovisno o mogućnosti izvođenja PCI. Ukoliko je moguće učiniti primarnu PCI unutar dva sata od početka bolova onda je to najbolje preporučeno liječenje, te bolesnike koji dolaze u hitnu pomoć ili bolnicu koja nema mogućnost izvođenja PCI treba prevesti u intervencijski centar. Važno je napomenuti da vrijeme od prvog kontakta s medicinskim osobljem do prvog napuhavanja balona u koronarnoj arteriji mora biti 90 minuta ili kraće za bolesnike koji dolaze rano. Ukoliko nije moguće učiniti primarnu PCI unutar dva sata od prvog kontakta s medicinskim osobljem, potrebno je započeti trombolizu prije dolaska ili tijekom boravka u bolnici što je ranije moguće nakon prvog kontakta. No, čak i nakon uspješne trombolize bolesnike sa STEMI treba rutinski poslati na koronarnu angiografiju kako bi se donijela odluka o dugoročnom liječenju. Nove smjernice donose i preporuke za upotrebu GPIIb/IIIa inhibitora, bivalirudina, te "loading" doze i doze održavanja klopidogrela kod primarne PCI ili trombolitičke terapije. Jedno poglavlje je posvećeno i rehabalitaciji, sekundarnoj prevenciji i suradnji oko brige za bolesnike.

Objavljen je i novi dokument koji govori o novoj univerzalnoj definiciji infarkta miokarda o čemu je već bilo riječi i prošle godine.

Predstavljeno je mnoštvo studija, te ćemo ovdje navesti kratke opise i rezultate nekoliko najzanimljivijih.

Prikazani su rezultati studije "The Geneva Stair Study" provedene na 77 zaposlenika Sveučilišta u Ženevi sa sjedećim zanimanjima. U studiji su ispitanici umjesto dizala kroz 12 tjedana koristili samo stepenice. Rezultati pokazuju da korištenje stepenica umjesto dizala na poslu poboljšava aerobni kapacitet za oko 10%, što odgovara otprilike 1 MET-u. Zabilježeno je i smanjenje opsega struka, težine, masnog tkiva, dijastoličkih vrijednosti arterijskog tlaka i razina LDL-kolesterola. No, učinci ovakvog programa su bit-

high risk of thrombosis recurrence of deep leg veins. In the event of intracardiac thrombus, there are still controversies with respect to therapy, thrombolysis or even surgical treatment is recommended if there is open foramen ovale.

There are revised guidelines for STEMI treatment whose most recent version was published in 2003 (at the moment they are being published in the *European Heart Journal*, the comparison with the American Guidelines for STEMI will also be presented). Some of the new points include recommendations for the treatment of pain and anxiety, arrhythmia, acute heart failure and shock[3]. The guidelines clearly show how to treat patients depending on a place of the first contact with a physician, they indicate the meaning of using emergency vehicle and a relationship towards a hospital depending on a possibility of performing PCI. If it is possible to perform primary PCI within 2 hours from the start of pains, then it is the best recommended treatment, and patients who come to emergency ambulance or hospital that is unable to perform PCI, need to be transported to an intervention center. It is worth noting that the time from the first contact with medical staff to the first inflation of the balloon in the coronary artery must be 90 minutes or shorter time period for the patients who come early. If it is not possible to perform primary PCI within 2 hours from the first contact with medical staff, it is necessary to start thrombolysis prior to arrival or during the stay in the hospital as soon as possible following the first contact. However, after having performed thrombolysis successfully, the patients with STEMI need to be referred to routine coronary angiography as to make a decision on long term treatment. The new guidelines result in some new recommendations for the use of GPIIb/IIIa inhibitors, bivalirudin, and "loading" doses as well as a dose for maintaining clopidogrel with primary PCI or thrombolytic therapy. One chapter addresses rehabilitation, secondary prevention and cooperation in connection with management of patients.

A new document concerning about a new universal definition of myocardial infarction, the topic discussed last year as well, has also been released.

There are many studies presented and here we shall mention some short descriptions and findings of some of the most interesting ones.

The findings of the study "The Geneva Stair Study" conducted on 77 employees of the Geneva University performing seating jobs have been presented. In the study, the respondents did instead of an elevator use only the stairs throughout the period of 12 weeks. The findings show that the use of stairs instead of an elevator at work improved aerobic capacity by approximately 10%, approximately equaling 1 MET. Reducing waist circumference, weight, fat tissue, diastolic blood pressure and LDL-cholesterol levels were also noted. However, the effects of such a program were greatly reduced after the main staircase had been closed for the period of three months due to reconstruction.

The findings of the Italian study conducted by **F. Sofi** on more than 30.000 young and middle aged sportsmen comparing the amount of detected abnormalities in ECGs recorded when resting and when exerting physical effort. Since 1982, according to Law in Italy, any person who wants to do sport professionally is subject to selection examinations. The study showed that abnormalities in ECG when resting were discovered with 6% of sportsmen (out

no smanjeni nakon što je glavno stepenište zatvoreno tri mjeseca kasnije zbog obnove.

Pokazani su i rezultati talijanske studije koju je proveo **F. Sofi** na preko 30.000 sportaša mlađe i srednje životne dobi koja je uspoređivala količinu otkrivenih abnormalnosti u EKG-ima snimljenim u mirovanju i u naporu. U Italiji su od 1982. god. prema zakonu obavezni probirni pregledi za sve osobe koje se žele baviti sportom profesionalno. Studija je pokazala kako su abnormalnosti u EKG-u u mirovanju otkrivene u 6% sportaša (od čega je 80% "bezazlenih" abnormalnosti), a snimanje EKG-a u naporu je otkrilo srčane anomalije kod dodatnih 1.227 sportaša koji su imali normalan EKG u mirovanju. Od 159 sportaša koji nisu prošli probir, skoro 80% je imalo značajne anomalije koje su otkrivene tek pri snimanju EKG-a u naporu. Logistička regresijska analiza je pokazala kako je dob iznad 30 godina najznačajniji predskazatelj mogućnosti diskvalifikacije za bavljenje sportom.

Prikazani su i rezultati meta-analize 13 studija "za gurmane" s preko 209.000 ispitanika. Rezultati pokazuju korisne kardiovaskularne učinke unosa jednog komadića tamne čokolade, do jedne čaše (crnog) vina, do 2 šalice zelenog čaja te 2 šalice kave.

Objavljeni su novi rezultati EUROASPIRE III istraživanja — rezultate je prikazao akademik **Željko Reiner** — koji pokazuju značajno povišenje prevalencije prekomjerne težine, debljine i dijabetesa kod koronarnih bolesnika u razdoblju od 1995. do 2007. god., arterijska hipertenzija je i dalje nedovoljno regulirana kod 37% koronarnih bolesnika. Ista je razina prevalencije pušenja, no uz poboljšanje liječenja dislipidemija[4].

Objavljeni su i rezultati talijanske GISSI-HF studije na 4.574 bolesnika za NYHA II-IV zatajenjem srca koji su bili randomizirani u skupinu koja je dobivala rosuvastatin ili skupinu koja je dobivala placebo. Pokazalo se kako bolesnici sa zatajivanjem srca, ukoliko nemaju drugu indikaciju, ne bi trebali započeti liječenje statinima, budući da nisu nađene značajne razlike između ove dvije opisane skupine u vremenu do smrti, te zajedničkom ishodu vremena do smrti i prijema u bolnicu zbog kardiovaskularne bolesti. Ovo dodatno potvrđuje rezultate nedavno objavljene CORONA studije. Kod onih bolesnika kod kojih već traje liječenje statinima odluka o nastavku terapije je ostavljena dobro informiranom nadležnom liječniku.

Nakon ESC kongresa u Barceloni 2006. god., kada su prezentirani podaci koji bacaju sumnju na superiornost stentova koji izlučuju lijek (DES), dodatne studije i meta-analize učinjene od strane **Kastrati** i sur. prezentirane na ovogodišnjem kongresu pokazuju da pri STEMI nema značajne razlike u stopama tromboze u stentu, no da korištenje DES značajno smanjuje rizik od potrebe za reintervencijom. Druga meta-analiza pokazala je da je smrtnost pri upotrebi DES i običnih stentova slična. Iz toga je ove godine zaključeno kako se čini da rizik od smrti ili infarkt miokarda nije povišen s upotrebom DES u odnosu na obične stentove. Razgovaralo se i o pitanju je li uzrok tromboze u stentu sam stent ili arterija, uz zaključak kako se korištenjem DES liječe puno kompleksnije lezije nego što su se prije liječile sa običnim stentovima, pa je vrlo moguće da je složenija anatomija razlog slabijih ishoda.

Predstavljeni su i rezultati nakon prve godine provođenja SYNTAX studije koja je prva randomizirana kontrolirana

of whom 80% "harmless" abnormalities), and recording of ECG when exerting effort showed heart anomalies with additional 1.227 sportsmen who had a normal ECG when resting. Out of 159 sportsmen who did not pass the selection examination, almost 80% of them suffered some significant anomalies that were discovered only when recording exercise ECG. The logistic regression analysis showed that the age over 30 is the most important indicator of any possibility of disqualification for doing sport.

The findings of meta analyses of 13 studies "for gourmands" with more than 209.000 respondents have been published. The findings show some useful cardiovascular effects due to eating a piece of dark chocolate, drinking up to one glass of red wine, up to two cups of green tea and two cups of coffee.

Some new findings of EUROASPIRE III study have been published. The findings have been disclosed by **Željko Reiner**, an academician — who indicates a significant increase in obesity, fatness and diabetes prevalence with coronary patients during the period from 1995 to 2007, arterial hypertension is still insufficiently regulated with 37% of coronary patients. There is the same smoking prevalence, however with dyslipidemia treatment improvements[4].

The findings of the Italian GISSI-HF study on 4.574 patients for NYHA II-IV heart failure who were randomized into a group that was taking rosuvastatin or a group that was taking placebo have been published. It has been proved that patients with heart failure, provided they have not any other indication, should not start with treatment with statins, since no differences between these two described groups during the time prior to death and common outcome of the time till the death and admittance to hospital due to cardiovascular disease have not been found. This additionally confirms the findings of the recently published CORONA study. With these patients who are already undergoing the treatment with statins, a decision on continuation of the therapy is up to well informed physician.

Following the ESC Congress in Barcelona in 2006 when presenting the data making the superiority of the drug eluting stents (DES) suspicious, some additional studies and meta-analysis made by **Kastrati** et al presented at the congress that took place this year, show that STEMI indicate no significant differences in stent thrombosis rates, but that the use of DES greatly reduces the risk of a need for re-intervention. Another meta-analysis has showed that the mortality rate when using DES and ordinary stents is similar. This is the reason why it has been concluded this year that the death risk or myocardial infarction is not higher due to use of DES compared with ordinary stents. The issue relating to a cause of thrombosis in stent which might be the stent itself of artery has been discussed, concluding thereby that the use of DES has resulted in treatment of more complex lesions than what they were treated earlier by using ordinary stents, so it is very likely that a complex anatomy may be the reason of some worse outcome.

The findings following the first year after the SYNTAX study was conducted, which is the first randomized controlled clinical study comparing PCI by using paclitaxel DES with aortocoronary bypass with the disease of left main coronary artery and three-vessel disease, in which around 1.800 patients were included, have been presented. All the patients included in the study are evaluated

rana klinička studija koja uspoređuje PCI uz korištenje paklitaksel DES s aortokoronarnim premoštenjem kod bolesti debla lijeve koronarne arterije i trožilne bolesti, a u koju je uključeno oko 1.800 bolesnika. Svi bolesnici uključeni u studiju procijenjeni su pri uključenju u studiju od strane intervencijskog kardiologa i kardijalnog kirurga, ukoliko su obje strane smatrale da mogu ponuditi podjednako uspješnu revaskularizaciju bolesnici su randomizirani ili u skupinu kojoj je učinjen PCI uz upotrebu paklitaksel DES-a, ili u skupinu kojoj je učinjeno aortokoronarno premoštenje. Rezultati su dvosmisleni: u PCI skupini bolesnika zabilježene su više stope potrebe za revaskularizacijom, uz niže stope pojave moždanog udara, a nije bilo značajnih razlika u stopama smrtnosti ili infarkta miokarda između bolesnika u PCI skupini u odnosu na skupinu sa aortokoronarnim premoštenjem.

Pokazani su i rezultati LEADERS studije koja istražuje upotrebu stenta s biorazgradivim polimerom — biolimusom — koji se po implantaciji nakon 6-9 mjeseci razgrađuje na ugljični dioksid i vodu. Oko 1.700 bolesnika s kroničnom stabilnom koronarnom bolesti ili akutnim koronarnim sindromom randomizirano je ili u grupu koja je dobila biolimus ili sirolimus DES. Studija neinferiornosti pokazala je da su biolimus stentovi jednako sigurni i učinkoviti kao i sirolimus stentovi.

Hrvatski autori su na ovom kongresu sudjelovali s dvanaest radova. Prema podacima dostupnim u arhivi sažetaka 2006. god. bilo je pet radova hrvatskih autora, a 2007. god. četiri rada. Primjera radi, na ovogodišnjem kongresu autori iz Slovenije objavili su devet radova, iz Srbije 22 rada, iz Makedonije jedan rad, iz Mađarske 16 radova, dok iz Bosne i Hercegovine i Crne Gore nije bilo radova. Od drugih zemalja, čija veličina je otprilike usporediva s našom, navodimo da je iz Švicarske objavljeno 115 radova, iz Finske 28 rada, iz Norveške 56 radova, iz Češke 30 radova, iz Slovačke i Estonije po 1 rad, itd.

Također je vrijedno napomenuti da su za vrijeme kongresa hrvatski kardiolozi kao istraživači aktivno sudjelovali na više sastanaka istraživača i glavnih istraživača velikih svjetskih kliničkih studija iz područja kardiologije, a koje su u tijeku (npr. CURRENT — OASIS7, SEPIA, TRILOGY, ENGAGE AF-TIMI 48, itd.).

Tijekom kongresa Hrvatsko kardiološko društvo je, kao i svake godine, imalo bogato multimedijalno opremljen izložbeni prostor, s *Kardio listom* i promotivnim turističkim materijalima.

Received: 6th Sep 2008
Updated: 10th Oct 2008
E-mail: vrazic@gmail.com

when being included in the study by the interventional cardiologist and cardiac surgeon, if the both sides considered them able to provide equally successful revascularization, patients are randomized either into a group where PCI together with DES paclitaxel or into a group where aortocoronary bypass has been performed. The results are ambiguous: the PCI patient group has recorded higher rates of the need for revascularization, followed by lower rates of brain stoke occurrence, and there have not been some significant differences in death rates or myocardial infarction among the patients in the PCI group in comparison with the group with aortocoronary bypass.

The findings of the LEADERS study researching the use of stent with biodegradable polymer — biolimus — that upon an implantation after some 6-9 months is degraded into carbon dioxide and water, have been presented. Around 1.700 patients with chronic stable coronary disease or acute coronary syndrome are randomized either into a group that obtained biolimus or sirolimus DES. The noninferiority study has showed that biolimus stents are equally safe and efficient just like sirolimus stents.

The Croatian authors participated in this congress with the total number of 12 reports. According to the data available, summary archive for the year 2006 contained 5 abstracts produced by the Croatian authors, and in 2007 there were 4 abstracts. For example, at the congress this year the Slovenian authors have published 9 abstracts, the Serbian authors 22 abstracts, the Macedonian authors 1 abstract, the Hungarian authors 16 abstracts, while the there were no abstracts produced by the authors from Bosnia and Herzegovina and Montenegro. Regarding any other countries whose size is comparable with the size of our country, we wish to mention that 115 abstracts have been published by the authors from Switzerland, from Finland there have been 28 abstracts published, from Norway there have been 56 abstracts published, from the Czech Republic there have been 30 abstracts published, from Slovakia and Estonia there has been 1 abstract published etc.

It is also worth mentioning that during the time of congress, the Croatian cardiologists as researches actively participated in several researchers' and major researchers' meetings with regard to large international clinical studies in the area of cardiology, which are, however, in progress (for example CURRENT — OASIS7, SEPIA, TRILOGY, ENGAGE AF-TIMI 48, etc.).

During the congress, the Croatian Cardiac Society, as every year, had a exhibition space exuberantly equipped in terms of multimedia, with *Kardio list* and promotional tourist-related materials.

Received: 6th Sep 2008
Updated: 10th Oct 2008
E-mail: vrazic@gmail.com

Literature

1. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2008: The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2008 of the European Society of Cardiology. Developed in collaboration with the Heart Failure Association of the ESC (HFA) and endorsed by the European Society of Intensive Care Medicine (ESICM). Eur Heart J 2008;29:2388-442. Epub 2008 Sep 17.

2. Guidelines on the diagnosis and management of acute pulmonary embolism: the Task Force for the Diagnosis and Management of Acute Pulmonary Embolism of the European Society of Cardiology (ESC). Eur Heart J 2008;29:2276-315. Epub 2008 Aug 30.

3. Van de Werf F. 2008 ESC guidelines: management of STEMI. http://resources.escardio.org/Webcast/ESC-2008/2408/ 8th Sept 2008

4. Reiner Ž, Amouyel P, De Backer G, et al. Treatment of dyslipidaemia in coronary patients in Europe: improving but still inadequate. Eur Heart J 2008;29 Suppl 1:761-2.