Sažetak sa skupa

Aritmije, smetnje provođenja i iznenadna srčana smrt

Meeting abstract

Arrhythmia, conduction disurbances and sudden cardiac death

Dubravko Petrač

Clinical Hospital Sestre milosrdnice, Zagreb

Iznenadna srčana smrt (ISS) je među najčešćim uzrocima smrti u razvijenim zemljama svijeta. U analogiji sa Sjedinjenim Američkim Državama u Hrvatskoj na taj način umire oko 6.000 bolesnika godišnje. Procjenjuje se da je rizik od ISS u općoj odrasloj populaciji između 0,1 i 0,2% godišnje, a u bolesnika s kongestivnim zatajivanjem srca i/ili koronarnom bolesti srca (KBS) i do 50% godišnje.

Oko 80% svih ISS uzrokuje KBS, dok su kardiomiopatije zastupljene u 10 do 15% slučajeva. Ostali uzroci ISS su rjeđi. Tu treba spomenuti bolesnike bez strukturalne bolesti srca, koji imaju primarne elektrofiziološke abnormalnosti kao što su sindrom produljenog QT intervala, Brugadin sindrom, idiopatska fibrilacija ventrikula i Wolff-Parkinson-Whiteov sindrom. Patofiziološki, ISS je krajnja točka brojnih elektrofizioloških abnormalnosti koje su posljedica kompleksnih interakcija između koronarnih vaskularnih događaja, oštećenja miokarda, promjena u autonomnom živčanom sustavu, te metaboličkog ili elektrolitskog stanja miokarda. Najčešći mehanizam ISS su poremećaji srčanog ritma. U najvećem broju slučajeva to su ventrikularna tahikardija (VT) koja degenerira u fibrilaciju ventrikula ili fibrilacija ventrikula izravno, a rjeđe teške bradiaritmije (asistolija ventrikula, sinusni arest i sinusne pauze).

Određivanje individualnog rizika od ISS jedan je od glavnih ciljeva u zbrinjavanju bolesnika. U tu svrhu prihvaćeno je više kliničkih pokazatelja pomoću kojih se s većom ili manjim vjerojatnošću može predvidjeti ISS. Među njima su najvažniji snižena (<40%) ejekcijska frakcija lijevog ventrikula (LV) i kongestivno zatajivanje srca, a zatime slijedi nepostojana VT ili česte ventrikulske ekstrasistole, ishemija i hipertrofija LV. Skupinu s najvišim rizikom čine bolesnici koji su preživjeli srčani arest ili hemodinamski nestabilnu VT.

U liječenju ISS razlikujemo sekundarnu i primarnu prevenciju. Sekundarna prevencija podrazumjeva liječenje bolesnika koji su preživjeli srčani arest ili hemodinamski nestabilnu VT, a primarna prevencija liječenje visoko rizičnih bolesnika koji još nisu imali srčani arest ili postojanu VT.

Kardioverter defibrilatori predstavljaju prvi izbor liječenja u sekundarnoj prevenciji ISS, jer u usporedbi s antiaritmicima ili drugom medikamentnom terapijom značajno poboljšavaju preživljavanje bolesnika. Od antiaritmika al-

Sudden cardiac death (SCD) is one of the most frequent causes of death in developed world countries. Compared to the United States of America there are some 6,000 persons who die in Croatia in such a way on a yearly basis. The risk of SCD in general adult population is estimated to vary between 0.1 and 0.2% p.a. and in patients with congestive heart failure and/or coronary heart disease (CHD) up to 50% annually.

Around 80% of all SCD-s are caused by CHD-s, while cardiomyopathies are present in 10-15% of cases. Other causes of SCD-s are rarer. In this respect, patients with no structural heart disease showing primary electrophysiological abnormalities such as prolonged QT interval, Brugada syndrome, idiopathic ventricular fibrillation and Wolff-Parkinson-White syndrome are to be mentioned as well. Pathophysiologically, SCD is the final point of numerous electrophysiological abnormalities that are a consequence of some more complex interactions between coronary vascular phenomena, myocardial damage, changes to autonomous nervous system and metabolic or electrolytic myocardial condition. Heart rhythm disorders are the most frequent SCD mechanism. In the largest number of cases, this is ventricular tachycardia (VT) that degenerates in ventricular fibrillation or direct ventricular fibrillation, more rarely in a serious bradyarrhythmias (asystole, sinus arrest and sinus blocks).

Determination of an individual risk from SCD is one of the main goals in management of patients. For that purpose, several clinical indicators enabling SCD prediction with greater or smaller probability have been accepted. Among them, the most important are lowered (<40%) ejection fraction of the left ventricle (LV) and congestive heart failure, followed by nonsustained VT or frequent ventricular ectopic beats, ischemia and LV hypertrophy. The group with the highest risk includes the patients who have survived cardiac arrest or hemodynamic unstable VT.

In treating SCD, we distinguish between secondary and primary prevention. Secondary prevention implies the treatment of patients who have survived cardiac arrest or hemodynamic unstable VT and primary prevention implies the treatment of high risk patients who have not yet suffered from cardiac arrest or sustained VT.

Cardioverter defibrillators represent the first choice of treatment in secondary SCD prevention, since in compari-

ternativno dolazi u obzir samo amiodaron, i to u skupini bolesnika koji imaju ejekcijsku frakciju LV >35%.

U primarnoj prevenciji ISS kardioverter defibrilatori se preporučuju kao prvi izbor liječenja u 1) bolesnika s disfunkcijom LV zbog prethodnog infarkta miokarda, koji su najmanje 40 dana nakon infarkta miokarda, imaju ejekcijsku frakciju LV manju ili jednaku 30% do 40%, pripadaju II. ili III. NYHA funkcionalnom razredu, primaju optimalnu kroničnu medikamentnu terapiju, i u kojih se očekuje preživljavanje u dobrom funkcionalnom stanju dulje od godinu dana, i u 2) bolesnika s neishemičnom kardiomiopatijom koji imaju ejekcijsku frakciju LV manju ili jednaku 30% do 35%, pripadaju II. ili III. NYHA funkcionalnom razredu, primaju optimalnu kroničnu medikamentnu terapiju, i u kojih se očekuje preživljavanje u dobrom funkcionalnom stanju dulje od godinu dana. U ostalih bolesnika s preboljelim infarktom miokarda i/ili kongestivnim zatajivanjem srca, na prvom su mjestu lijekovi (beta-blokatori, ACE inhibitori, acetilsalicilna kiselina, statini, blokatori aldosterona), koji u usporedbi s placebom smanjuju ukupnu smrtnost i rizik od iznenadne srčane smrti.

Za bolesnike sa simptomatskim i/ili prijetećim bradiaritmijama terapija izbora je ugradnja trajnog elektrostimulatora srca, a za bolesnike s Wolff-Parkinson-Whiteovim sindromom, radiofrekventna ablacija akcesornog atrioventrikularnog puta.

Received: 14th Nov 2008
E-mail: d.petrac@inet.hr

son with antiarrhythmics or some other pharmacological therapy they greatly improve the patients' survival. Concerning antiarrhythmics, only amiodarone is the only one to be considered but only for the group of patients that have ejection fraction LV >35%.

In primary SCD prevention, cardioverter defibrillators are recommended as the first choice in treatment in 1) patients with LV dysfunction due to a previous myocardial infarction, who only 40 days following the myocardial infarction have LV ejection fraction below or equaling 30% to 40%, they belong to II or III NYHA functional class, receive optimum chronic pharmacological therapy and who are expected to survive in good functional condition for a period longer than one year and 2) patients with nonischemic cardiomyopathy who have LV ejection fraction below or equaling 30% to 35% they belong to II or II NYHA functional class, receive chronic pharmacological therapy and who are expected to survive in good functional condition for a period longer than one year. With some other patients who survived myocardial infarction and/or congestive heart failure, the first place is taken by medications (beta-blockers, ACE inhibitors, aspirin, statins, aldosterone blockers) that in comparison with placebo reduce the total mortality and risk of sudden cardiac death.

Regarding patients with symptomatic and/or threatening bradyarrhythmia, the therapy of choice is implantation of permanent heart electrostimulator and regarding the patients with Wolff-Parkinson-White syndrome, it is radiofrequent ablation of accessory atrioventricular pathway.