Ambulantna kardijalna rehabilitacija djelotvorna je i u osoba starije životne dobi

Out-patient cardiac rehabilitation is efficient in elderly people

Mia Romčević*

Poliklinika za prevenciju kardiovaskularnih bolesti i rehabilitaciju, Zagreb, Hrvatska

Institute for Cardiovascular Diseases Prevention and Rehabilitation, Zagreb, Croatia

Ambulantna kardijalna rehabilitacija predstavlja učinkovit način sekundarne prevencije kardiovaskularnih bolesti i u osoba starije životne dobi. Multidisciplinarnim pristupom u timu kojeg čine kardiolog, internista, fizijatar, fizioterapeut, medicinska sestra, psiholog i drugi suradnici, kod bolesnika se potiče osjećaj osobne odgovornosti za vlastito zdravlje, dokazano smanjuju ponovne hospitalizacije i egzacerbacije simptoma što doprinosi boljoj kvaliteti življenja.

S obzirom na povoljne biološke učinke kardijalna rehabilitacija se razvija od 1960. godine uz sve glasnije preporuke američkih i europskih kardioloških društava za još intenzivniju dostupnost programa ambulantne i/ili stacionarne rehabilitacije. Integracija preventivne strategije u svakodnevnoj praksi i danas je nedovoljna, pa je tako u Europi svega trećina kardiovaskularnih bolesnika aktivno uključena u programe rehabilitacije.

Indikacije za kardiološku rehabilitaciju su:

* preboljeli akutni infarkt miokarda
* nakon perkutane koronarne intervencije
* nakon kardiokirurškog zahvata:
  * ugradnje srčanih premosnica
  * zamjene srčanih zalistaka
  * transplantacija srca
  * nakon ugradnje elektrostimulatora srca ili kardioverter-defibrilatora
* stabilna angina pektoris
* bolesnici s perifernom vaskularnom bolešću i klaudikacijama.

Kardioprotektivni učinci tjelesne aktivnosti su:

* poboljšanje funkcionalnog statusa
* do 50% porast vrijednosti HDL kolesterola
* snižavanje vrijednosti LDL kolesterola i triglicerida
* povoljan utjecaj na metabolizam ugljikohidrata i regulaciju tjelesne težine
* smanjeno izlučivanje kateholamina tijekom stresa
* povoljan utjecaj na reološke parametre krvi (fibrinogen), autonomni živčani sustav (vagus i simpatikus), smanjenje homocisteina
* snižavanje vrijednosti upalnih parametara (i do 40% smanjuje hs-CRP)
* poboljšanje funkcije miokarda
* stimulacija razvoja kolateralne cirkulacije
* oporavak oštećenja endotela čime se poboljšava prokrvljenost miokarda i povećava koronarna rezerva.

Out-patient cardiac rehabilitation is an efficient method for secondary prevention of cardiovascular diseases also in elderly people. Multidisciplinary approach in a team consisting of a cardiologist, internist, physiatrist, physiotherapist, nurse, psychologist and other associates helps stimulating a patient's feeling for personal responsibility for his/her own health, it is also proved to reduce re-hospitalization and exacerbation of symptoms contributing thus to a better quality of life.

Considering good biological effects, the cardiac rehabilitation has been developing since 1960 with ever stronger recommendations by American and European cardiac societies for more intensive accessibility of the out-patient and/or stationary rehabilitation programs. The integration of the preventive strategy in a daily practice is even today insufficient, so in Europe only a third cardiovascular patients are included in the rehabilitation programs.

Indications for the cardiac rehabilitation are:

* Recent acute myocardial infarction
* After percutaneous coronary intervention
* After the cardiac surgery:
  * Implantation of heart bypass
  * Replacement of heart valves
  * Heart transplantation
  * After the implantation of heart electrostimulator or cardioverter-defibrillator
* Stable angina pectoris
* Patients with peripheral vascular diseases and claudications.

Cardioprotective effects of the physical activities are:

* Improved functional status
* Up to 50% increase in value of HDL cholesterol
* Decrease in value of LDL cholesterol and triglycerides
* Positive impact on metabolism of carbohydrates and body weight regulation
* Decreased excretion of catecholamine during stress
* Good impact on rheological blood parameters (fibrinogen), autonomous nervous system (vagus and sympathicus), decreased homocysteine
* Lowering of values of inflammation parameters (hs-CRP is decreased even up to 40%)
* Improved myocardial function
* Stimulation of development of collateral circulation
* Recovery of endothelium damage improving thus the myocardial profusion and increasing coronary reserve.

Glavne ciljeve kardijalne rehabilitacije predstavljaju:

* snižavanje rizika od ponovnog koronarnog događaja i iznenadne smrti

* poboljšanje funkcijskog kardiološkog statusa

* usporavanje aterosklerotskih procesa putem programa tjelovježbe, edukacije, korekcije čimbenika rizika

* psihomotorna relaksacija, smanjivanje anksioznosti

* ponovno uključivanje srčanih bolesnika u obitelj i društvo.

Kardijalni rehabilitacijski programi objektivnim mjerenjima pokazuju povećanje tolerancije napora i psihosocijalnog oporavka bez povećanja rizika značajnih komplikacija. Programi se provode se u tri razdoblja:

* prvo razdoblje započinje već tijekom hospitalizacije

* drugo razdoblje započinje nekoliko tjedana nakon otpusta iz bolnice, a provodi se u stacionarnom ili ambulantnom obliku

* treće razdoblje čine programi dugoročnog održavanja kvalitetnog življenja.

Prepreke iz perspektive pacijenta uključuju nedostatak motivacije, ograničeno znanje o prednostima kardijalne rehabilitacije, pristupačnost. Uz niže troškove i dugoročniju korist ambulantna kardijalna rehabilitacija može biti metoda izbora kod starijih bolesnika nižeg rizika.

U sklopu Poliklinike za prevenciju kardiovaskularnih bolesti i rehabilitaciju u Zagrebu provodi se ambulantna rehabilitacija kardioloških bolesnika u koju se uključuje po preporuci nadležnog kardiologa, interniste, kardiokirurga ili liječnika obiteljske medicine. Tijekom 2009. godine bilo je uključeno ukupno 459 bolesnika. Od ukupnog broja pacijenata bilo je uključeno 72% muškaraca i 28% žena. Starije od 60 godina bilo je 53% muškaraca i 63% žena. Nakon uvida u medicinsku dokumentaciju, uzimaju se anamnestički podaci. Po učinjenom fizikalnom pregledu u bolesnika se ergometrijskim testiranjem procjenjuje razina podnošenja tjelesnog opterećenja i uključuje se u odgovarajuću skupinu za vježbanje. Bolesnike se podučava o samokontroli vrijednosti arterijskog tlaka i pulsa. Tijekom treninga provodi se telemetrijsko praćenje te se program

The main goals of the cardiac rehabilitation are the following:

* Reducing risk of recurrent coronary event and sudden death

* Improved functional cardiac status

* Slow down of atherosclerotic processes by using body exercise, training and risk factor correction programs

* Psychomotor relaxation, reduction of anxiety

* Re-involvement of cardiac patients in the family and society.

Cardiac rehabilitation programs by using objective measurements indicate an increase in stress tolerance and psychosocial recovery with no increased risk of significant complications. The programs are conducted during three periods:

* The first period starts at the time of hospitalization

* The second period starts several weeks after the release home from hospital and is conducted in stationary or out-patient clinics

* The third period includes the programs of long-term maintenance of good quality life

The obstacles, from the patient's point of view, include the lack of motivation, limited knowledge of advantages of cardiac rehabilitation, accessibility. With lower costs and long-term benefit, the out-patient cardiac rehabilitation may be a method of choice with lower risk elderly patients.

The out-patient rehabilitation of cardiac patients is conducted in the Institute for Prevention of Cardiovascular Diseases Prevention and Rehabilitation in Zagreb where patients may be included upon recommendation of a competent cardiologist, internist, cardiac surgeon or family medicine physician. During the year 2009, the total number of 459 patients was involved. From the total number of patients, some 72% of men and 28% of women were included. 53% of men and 63% of women were persons over 60 years of age. After having inspected the medical documentation, anamnestic data was taken. Following the performed physical examination, the ergometric testing is used for evaluation of level of a patient's tolerance of phys-

vježbi individualno prilagođava ovisno o mogućim lokomotornim ograničenjima. Čimbenici rizika prate se laboratorijskim praćenjem na početku i kraju rehabilitacijskog programa — lipidogram, transaminaze, upalni parametri. Titrira se medikamentozna terapija koja se primjenjuje u sekundarnoj prevenciji. Tijekom 3 mjeseca uz redovitu tjelesnu aktivnost kontrolira se tjelesna težina, a provodi se i prehrambeno savjetovanje o smanjenom unosu masnoća i kuhinjske soli, kontroli i obuzdavanju značaja pojedinih čimbenika rizika. S porastom kondicijske spreme bolesnika se stimulira na prelazak u grupu većeg tjelesnog opterećenja uz popratno monitoriranje. Tijekom programa ambulantne rehabilitacije od dijagnostičke obrade učini se 24-satni holter EKG, ergometrijsko testiranje, ehokardiografski pregled, a po potrebi se planiraju i drugi neinvazivni ili invazivni dijagnostički postupci i/ili konzultacije suradnih specijalista.

Obzirom da kardiovaskularne događaje prate psihofizičke promjene, osobito izražene u starijih ljudi (brže smanjenje mišićne mase, depresija, socijalna izolacija), ambulantna kardijalna rehabilitacija je izvrstan oblik sekundarne prevencije. Programi se odvijaju u sigurnom okruženju uz usmjerenu pažnju stručnjaka da pravovremeno otkriju i spriječe komplikacije i pripreme bolesnika za što samostalniji i kvalitetniji život povećanjem funkcionalnih sposobnosti bolesnika i ujecajem na promjenjive čimbenike rizika.

Received: 17th May 2010

Updated: 19th May 2010

*Address for correspondence: Poliklinika za prevenciju kardiovaskularnih bolesti i rehabilitaciju, Draškovićeva 13, HR-10000 Zagreb, Croatia; Phone: +385-1-4612-290; E-mail: miaromcevic@yahoo.com

ical stress and he/she is included in a suitable exercising group. The patients are taught about self-controlling the blood pressure and pulse values. During the training, telemetric monitoring is conducted and the program of exercises is individually adjusted depending on possible locomotor limitations. The risk factors are conducted by laboratory monitoring at the start and end of the rehabilitation program — lipids, transaminase and inflammation parameters. Medicamentous therapy applied in the secondary prevention is titrated. The body weight is controlled during the period of 3 months accompanied by regular physical activity, while nutritious consultancy about reduced entry of fat and table salt, control and reduction of importance of individual risk factors is conducted. A patient is stimulated to pass on to an increased body stress group after becoming more physically fit accompanied by monitoring. During the out-patient rehabilitation program, concerning diagnostic testing, 24-hour holter ECG, ergometry, echocardiography are conducted and when necessary, some other non-invasive or invasive diagnostic procedures and/or consultations with associate specialists are planned.

Since the cardiovascular events are accompanied by psychophysical changes, especially indicated in elderly people (reduction of muscle mass, depression, social isolation), the out-patient cardiac rehabilitation is an excellent way of secondary prevention. The programs are conducted in a safe environment with directed attention by experts to timely detect and prevent complications and prepare a patient for more independent and better quality life by increasing patients' functional abilities and influencing changeable risk factors.

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