Current Treatment Options for Coronary Heart Disease

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Coronary heart disease becomes a major global public health problem. It has been globally the leading contributor for death and disability. The treatment for coronary heart disease aims to reduce the risk of mortality and morbidity as well as to reduce or eliminate angina pectoris, thus, allowing patients to return to normal activities. Ideally, these end points should be accomplished with minimal side effects and adequate long-term results. There are currently three well-established treatment options for coronary heart disease: medical therapy, CABG and PCI.

Throughout the last 2 decades, number of clinical trials has been conducted to compare those strategies. Medical therapy has been proved to reduce the risk of death, myocardial infarction, or other major cardiovascular events in stable patients. Patients with left main coronary artery disease, three-vessel coronary heart disease with impaired left ventricular function, diabetes mellitus, and instable angina pectoris derive the greatest benefit from CABG.

PCI is less invasive and offers shorter hospital stay or faster recovery, but it limited by the occurrence of restenosis. Some drug-eluting stents promise better results. However, further evidence on their long-term efficacy and safety, especially in high-risk subgroups, is warranted. Meanwhile, intensive communication between medical professionals who involve in providing medical care, in term of objectively choosing the best treatment option for specified patients with coronary heart disease, is of highly necessary. One can be sure that most of the patients with coro- nary heart disease will benefit from each treatment options that continue to advance and improve.

Keyword: Heart, coronary, treatment, CABG, PCI

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Pathophysiology of Chronic Heart Failure

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Heart failure is a clinical syndrome that occurs in patients who, because of an inherited or acquired abnormality of cardiac structure and/or function, develop a constellation of clinical symptoms (dyspnea and fatigue) and signs (edema and rales) that lead to frequent hospitalizations, a poor quality of life, and shortened life expectancy.

Heart failure is a burgeoning problem worldwide, with more than 20 million people affected. The overall prevalence of heart failure in the adult population in developed countries is 2%. Heart failure prevalence follows an exponential pattern, rising with age, and affects 6-10% of people over the age of 65.

The key feature of heart failure is the impaired ability of the heart to act as a pump and may be viewed as a progressive disorder that is initiated after an "index event" either damages the heart muscle, with a resultant loss of functioning cardiac myocytes, or alternatively disrupts the ability of myocardium to generate force, thereby preventing the heart from contracting normally. An understanding of how these changes occur provides insight into the pathophysiology of heart failure as neurohormonal and LV remodeling model.

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The Secrets of Stem Cell Therapy for Myocardial Infarction

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Stem cell therapy has attracted a lot of attentions in the last decade. The limitations in conventional treatments to prevent cardiac remodeling after myocardial infarction has driven physicians and scientists to explore the potential usage of stem cell in cardiac regenerative medicine. Knowledge in the mechanisms of stem cells homing and regeneration of injured cells will be needed before the implementation of any method used. Based on the complexity of methods for collection, cell processing, and its clinical administration, synergetic collaborations between physician and cellular processing units will be needed.

Key words: Stem Cell, myocardial infarction, cell therapy.

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Dyslipidemia as Risk Factor for Coronary Heart Disease

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Dyslipidemia is defined as disturbance in lipid metabolism causing elevation or reduction of plasma lipids. Recent trials in molecular medicine found that atherogenic dyslipidemia is the most dangerous type of dyslipidemia. Endothelial dysfunction is the basic mechanism in atherosclerosis formation, caused by LDL cholesterol deposit in arterial wall. Atherosclerosis in coronary artery caused coronary arterial disease.

NCEP ATP III 2004 guideline is the comprehensive approach to manage dyslipidemia. The guideline include risk stratification, target of therapy and therapy which include therapeutic lifestyle changes and drug therapy.

Key words: dyslipidemia, LDL cholesterol, HDL cholesterol, atherosclerosis, coronary arterial disease, NCEP ATP III guideline.

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