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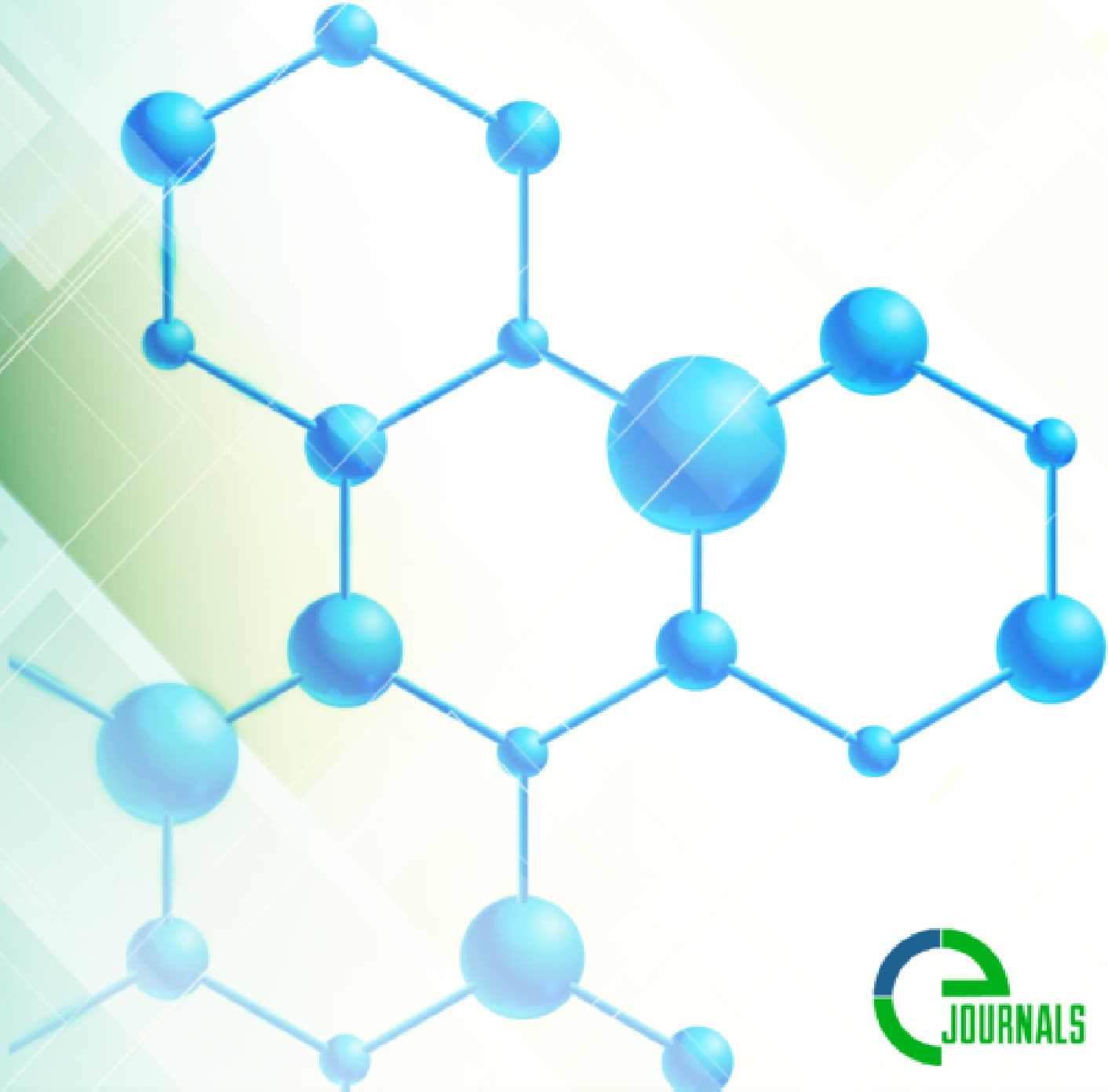

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REHABILITATION OF PATIENTS AFTER CORONARY ARTERY BYPASS GRAFTING

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Abstract: The article presents a brief history of coronary artery bypass grafting, as well as the principles of modern cardiac rehabilitation. The main stages of the rehabilitation program after coronary bypass grafting are described. The issue of the "School of Cardiorehabilitation" - an educational program for patients and their relatives.
Keywords: coronary artery bypass grafting, cardiorehabilitation

More than a century ago, in 1910, Alexis Carrel, who invented the vascular suture, first placed a bypass on a coronary artery. The experiment was performed on a dog, and the carotid artery served as a bypass between the descending thoracic aorta and the coronary artery. In 1964, Vasily Ivanovich Kolesov, for the first time, performed coronary bypass grafting on a person - a mammary-coronary anastomosis, on a beating heart. And in 1964, Ren? Favaloro implanted a proximal anastomosis of an autovenous conduit into the ascending aorta, thus marking the beginning of the era of coronary bypass surgery. To date, it is the mammary-coronary anastomosis of the anterior interventricular branch plus autovenous coronary artery bypass grafting of other arteries that is the most widely used scheme for surgical myocardial revascularization[1].

Coronary artery bypass grafting has been widely used in clinical practice since the last century, but stagnation has not touched it. Modern randomized trials answer many emerging questions and pose new challenges for prospectors [1]. The widespread introduction of percutaneous coronary interventions has not excluded coronary artery bypass grafting from the arsenal of IHD treatment methods, on the contrary, a number of studies (BARI, CABRI, SYNTAX, CARDia) have demonstrated the benefits of surgical revascularization for non-trivial categories of patients (with complex coronary artery lesions, with diabetes mellitus) [1]. The widespread introduction of percutaneous coronary interventions has not excluded coronary artery bypass grafting from the arsenal of IHD treatment methods, on the contrary, a number of studies (BARI, CABRI, SYNTAX, CARDia) have demonstrated the benefits of surgical revascularization for non-trivial categories of patients (with complex coronary artery lesions, with diabetes mellitus).

Today, reconstructive surgery is developing by leaps and bounds. An increasing number of myocardial revascularization operations are performed on people of working age, which entails an increase in the need for active rehabilitation of these patients in order to return to social life. [2-6.].

The World Health Organization (WHO) defines rehabilitation as "a comprehensive and coordinated application of medical, social, educational and occupational measures to adapt the patient to a new life and assist in obtaining the best possible physical fitness" [7]. Accordingly, the return of the patient to work is regarded as a marker of the effectiveness of rehabilitation[8-10].

Today, the effectiveness of rehabilitation programs after heart surgery is not in doubt [11-13]. It is worth emphasizing the favorable cost / effectiveness ratio and the high degree of safety of physical training programs (1 fatal case per 8484 exercise tests, 1 fatal

case per 49,565 man-hours of physical training, cardiac arrest rate of 1.3 cases per 1 million training people). In the US, cardiac rehabilitation programs can save between $2,193 and $28,193 per patient year. Based on these figures, recommendations for cardiac rehabilitation have been significantly expanded. [14, 15].

Today, cardiological rehabilitation is performed at any stage of the disease, with a stable clinical condition of the patient, the presence of rehabilitation potential, the absence of contraindications to the use of certain rehabilitation methods and on the basis of a clearly defined rehabilitation goal [16].

According to modern concepts, there are 3 stages of cardiorehabilitation.

Stage I begins in the cardiology departments of the hospital and is divided into several stages:

- prehabilitation,
- intensive care unit,
- cardiosurgical department (stay of the patient in the ward department of the hospital for a period of at least 16 days).

Stage II (early cardiorehabilitation) takes place in a specialized cardiorehabilitation department or amultidisciplinary rehabilitation center, and the length of stay depends on the patient's condition.

Stage III (late cardiorehabilitation) is performed under the supervision of the outpatient department of the cardiorehabilitation center, lasts alifetime and requires amultidisciplinary approach [16]. The patient is explained the need for lifelong optimal drug therapy. At the same time, physical training programs, "schools for the sick", psychological correction and readaptation, training of patients and their relatives on a modern atherosclerotic diet, modification of risk factors that can be corrected (arterial hypertension, hyper- and dyslipidemia, obesity, physical inactivity, smoking) [11, 17].

The main part of rehabilitation programs after coronary artery bypass grafting are physical training (class I recommendations, level A). They improve the prognosis, increase exercise tolerance and, consequently, improve the quality of life [16, 18, 19]. Physical training is recommended to be performed under medical supervision (Evidence: Class I, Level B).

The basic principles for selecting aphysical activity program include:

- individual approach,
- strict dosing,
- regularity of classes,
- gradual increase in load,
- control of tolerability and effectiveness.

In cardiac rehabilitation programs for patients undergoing coronary bypass surgery, it is recommended to use "low" and "moderate" physical activity (evidence: class I, level B, recommendations of the American communities ACCF/AHA/ACP (American College of Physicians)/AATS (American Association for Thoracic Surgery)/PCNA (Preventive Cardiovascular Nurses Association)/SCAI (Society for Cardiovascular Angiography and Interventions)/STS (Society of Thoracic Surgeons) [16, 20.].

The educational program for cardiac patients is of great importance. Undoubtedly, this is a long process that requires the joint work of the doctor and the patient [21]. In the "School of Cardiorehabilitation" it is necessary to train not only patients who underwent coronary bypass surgery, but also their relatives. The school should be organized on the basis of the rehabilitation department in medical and preventive institutions of primary health care at various levels - hospitals, cardiological dispensaries, rehabilitation centers, polyclinics [16.]. At the same time, it is necessary to start teaching the patient and his relatives at the stage of prehabilitation - during the period of his preparation for the

operation, and continues after the operation at all 3 stages of cardiac rehabilitation. The patient is enriched with knowledge about further treatment, the need to comply with drug and non-drug recommendations, and maintaining high compliance with all medical recommendations. For, "not even the most effective method of therapy will bring sufficient benefit if the patient does not achieve high adherence to medical recommendations" [16.].

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