

The Use of Velocity Vector Imaging in Patients with Ischemic Heart Disease Before and After Surgical Revascularization

E. B. Petrova

Nizhny Novgorod State Medical Academy, Ministry of Healthcare of Russia

Abstract

The purpose of this study was to evaluate the functional parameters of the left ventricle (LV) in patients with coronary heart disease (CHD) before and early after surgical revascularization using standard echocardiography and Velocity Vector Imaging. The study included 28 patients with ischemic heart disease. Based on the evaluation of the contractile function of the left ventricle during a standard echocardiographic examination at rest were divided into two groups: group I – without contractile dysfunction (n = 14), group II with impaired contractility (n = 14). The impact of CHD on LV segments in both groups is reflected not only in combined compensatory decrease or increase of strain (S) and strain rate (SR), but also variations due to changes mainly of S or SR. Along with this marked change in the direction of motion of LV myocardial fibers. After revascularization more expressed positive dynamics of the functions of longitudinal fibers identified in group I. A significant improvement of radial fiber function were recorded in both groups. Significant dynamics in the function of circular fibers in the early stages are not registered.

Key words: Coronary Heart Disease, Velocity Vector Imaging, Left Ventricular Function, Strain, Strain Rate.

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Author

Petrova Ekaterina Borisovna, Ph. D. Med., Associate Professor of the Department of Radiodiagnosis, the Faculty of Doctors Advanced Training, Nizhny Novgorod State Medical Academy, Ministry of Healthcare of Russia.
Address: 5/66, ul. Minina, Nizhny Novgorod, 603950, Russia.
Phone number: +7 (831) 433-75-78. E-mail: eshakhova@yandex.ru