

Implantation of left ventricular assist device as a "bridge" to heart transplantation: our first experience

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Abstract

In this article, we present our experience with left ventricular assist device implantation.

Key words: chronic heart failure, left ventricular assist device

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Introduction

Chronic heart failure (CHF) is a significant medical, social and economic problem. The introduction of ventricular assist devices (VADs) into clinical practice allowed a fresh look at the problem of CHF. Using the experience of one clinic, we aimed to demonstrate the implantation of left ventricular assist devices (LVADs) in the regions of the Republic of Kazakhstan.

Methods

At our center, on May 10, 2013, a male patient aged 55 years with the diagnosis: CHF, ischemic cardiomyopathy, was first implanted with LVAD.

Preoperative diagnostics results

Electrocardiography: Sinus rhythm of heart rate of 80 beats per min.

Echocardiography: SPAP - 60mmHg; after treatment SPAP - 35 mmHg, LVEDD - 6.5, LVESD-6.1, LVEF - 23%, RVEF - 40% (TAPSE 1.8cm), EDV- 239, ESV- 182, 6 minute walking test - 150 meters. Coronary angiography: left anterior descending artery - 60% stenosis, left circumflex artery – 60% stenosis, and right coronary artery- 50% stenosis.

Catheterization result- BSA -1.6, PVR -2.9, SVR 40 liter, TPG-12, QP- 4.1/ QS-1.7, QP/QS - 1.2/1. Spirography: severe restriction (FVC 30). Laboratory tests are within the limits of the normal range. Abdominal organs: normal.

Postoperative follow up:

At the discharge, a 6-minute walking test was carried out with result: FC2. Follow-up examination result at 1 month: FC1. Before the operation NT-proBNP level was up to -20000 pmol/l (normal 133 pmol/l), while after the treatment it reduced to 5000 pmol/l. In the postoperative period, the patient receives anticoagulants and antihypertensive drugs.

Conclusions

Thus, based on the experience of our clinic, the expediency of developing of LVAD implantation in the regions of the Republic of Kazakhstan is justified. We strongly believe that this method of treatment will prolong the lives of many patients waiting for the donor heart.

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