

## Assessment of sexual and physical activity of patients after implantation of left ventricular assist device (LVAD)

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**Background:** Patients with cardiovascular diseases also suffer from problems related to the sexual sphere, among others: reduction or loss of libido, avoiding sexual activity, impotence. They may result from depressive disorders and the fear of the appearance of health and life-threatening symptoms during sexual intercourse (dyspnea, angina, myocardial infarction, arrhythmias, sudden death). The aim of the study was to evaluate sexual and physical activity in patients after implantation of left ventricular assist device (LVAD).

**Methodology:** The study included 50 men aged 18–66, average 55 years, after LVAD implantation. Finally 20 patients did not complete the program and were excluded from the analysis. The subjects were assessed by a sexologist in terms of the quality of sexual life and erectile dysfunction. Sexological counselling and education (positions during intercourse, safety recommendations) and physical activity (training forms, frequency and duration of training) were conducted, 13 patients were qualified for pharmacological treatment of erectile dysfunction. The level of physical activity (according to International Physical Activity Questionnaire, IPAQ) and sexual satisfaction (questionnaire) as well as quality of sexual life (Mell-Krat Scale) were assessed before LVAD implantation and after 6 months. Additionally, exercise tolerance was evaluated with 6 minute walk test (6-MWT). The tests were repeated after 6 months.

**Results:** After the implementation of sexual and physical activity education, a significant improvement was observed in the results of the parameters tested: 6-MWT [m]: 355.5 (131.1) vs. 465.5 (93.8),  $p < 0.001$ , IPAQ [met / min / week]: 1.411.5 (513.4, 2.465.2) vs. 3.870.0 (983.0, 5.274.0),  $p < 0.002$ , sexual satisfaction: 26.5 (24.2, 28.0) vs. 28.5 (27.2, 29.0),  $p < 0.01$ . The quality of sex life in the whole group significantly decreased after LVAD implantation compared to the period before onset of the disease, Mell-Krat Scale score: 50.0 (46.0, 51.8) vs. 26.0 (9.2, 48.5),  $p < 0.001$ . In patients who received pharmacological treatment, the quality of sexual life assessed by the Mell-Krat Scale improved significantly: before treatment 10.0 (8.0, 13.0) vs. 34.0 (6.0, 37.0) after treatment,  $p < 0.006$ , but did not return to pre-onset levels. A significant positive correlation was observed between the assessment of sexual satisfaction and the results of 6-MWT and IPAQ score.

**Conclusions:** Sexual health education significantly improves sexual satisfaction in patients following LVAD implantation. Increasing exercise tolerance and the level of daily activity has a positive effect on the subjective assessment of sexual satisfaction. However, the quality of sexual life significantly decreases after LVAD implantation and even after pharmacological treatment it does not return to the level from before the onset of the disease.