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Rehabilitation as a bridge between advanced heart failure therapies and functional recovery: a case report

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Introduction: Advanced therapies have improved survival in patients with advanced heart failure; however, disease complexity, recurrent hospitalizations, and prolonged treatment frequently result in substantial functional impairment. Individualized cardiac rehabilitation is therefore an important component of the continuum of care, particularly following left ventricular assist device (LVAD) implantation and transcatheter interventions[1-3]. This case report presents the complex treatment course of a patient with advanced heart failure and highlights the role of physiotherapy and a multidisciplinary approach in preserving and restoring functional independence.

Case report: 66-year-old woman with cardiomyopathy of ischemic and hypertensive etiology, severely reduced left ventricular systolic function, and recurrent episodes of cardiac decompensation underwent evaluation for advanced heart failure therapies. During the initial assessment, she achieved a distance of 273 m on the 6-minute walk test. An LVAD was implanted in March 2025. The subsequent clinical course was complicated by renal failure requiring continuous renal replacement therapy and other complications associated with prolonged intensive treatment. In February 2026, severe aortic, mitral, and tricuspid regurgitation were identified, together with Stanford type A aortic dissection and ascending aortic dilatation. Because no alternative treatment options were available, transcatheter aortic valve implantation (TAVI) was performed for severe aortic regurgitation in March 2026. Despite her highly complex cardiovascular condition, chronic kidney disease requiring hemodialysis, and prolonged treatment course, on subsequent reevaluation the patient was hemodynamically stable, clinically compensated, and ambulatory with a walking aid. The complexity of her functional recovery emphasizes the need for continuous functional assessment, individually tailored physical activity, prevention of deconditioning, patient education, and motivation, with the physiotherapist playing an important role in the multidisciplinary team.

Conclusion: Advanced interventional and surgical therapies may improve survival in patients with advanced heart failure, but functional recovery represents a distinct therapeutic goal. This case highlights the importance of timely, continuous, and individualized rehabilitation and the active role of physiotherapists in multidisciplinary care of patients after LVADs and following TAVI. Systematic assessment of functional capacity and adjustment of rehabilitation goals to the patient's clinical condition may contribute to maintaining mobility, independence, and quality of life.

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LITERATURE

1. Bäck M, Wilhelm M, Marcin T, Machado FVC, Sandberg A, Buccheri S, et al. 2026 ESC Guidelines on cardiac rehabilitation. Eur Heart J. 2026;47(39):5631-5729. https://doi.org/10.1093/eurheartj/ehag099
2. Wang Y, Wu Y, Wei S, Lu S, Zhao J, Zhang Y, et al. Effectiveness of exercise-based cardiac rehabilitation for patients with left ventricular assist device: a systematic review and meta-analysis. Perfusion. 2025;40(2):317-327. https://doi.org/10.1177/02676591241245876
3. Hosseinpour A, Azami P, Hosseinpour H, Attar A, Koushkie Jahromi M. Efficacy of exercise training-based cardiac rehabilitation programmes after transcatheter aortic valve implantation: a systematic review and meta-analysis. Int J Cardiol Cardiovasc Risk Prev. 2024;20:200238. https://doi.org/10.1016/j.ijcrp.2024.200238