Work out treatment for heart failure patients.

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Impressive progress has been made in the diagnosis and treatment of solid organ and hematological malignancies in recent decades. Some highly effective cancer therapeutics and radiation therapy can be associated with serious cardiovascular side effects such as cardiomyopathy and heart failure. The emerging knowledge of risk factors, advances in imaging techniques, and the development of cardio-oncology teams have notably improved the care of patients with cancer-therapy-related heart failure (CTrHF). Irrespective of the best possible preventive measures and systematic treatment, cancer therapy can result in end-stage heart failure. Heart transplantation requiring immunosuppressive therapy is rarely an option in cancer patients and, hence, mechanical circulatory support comes into focus. Limited knowledge is available concerning the use of continuous-flow left-ventricular-assist devices in patients with CTrHF [1].

Several case reports and some case small series describe successful treatment of chemotherapy-induced cardiomyopathy with a left-ventricular-assist device (LVAD) in adults and in children. Retrospective analysis from the INTERMACS (Interagency Registry for Mechanically Assisted Circulatory Support) database has compared the characteristics and outcomes of patients with anthracyline-induced cardiomyopathy with those of patients with ischemic cardiomyopathy and non-ischemic cardiomyopathy. Only little is known about the medical histories, including cancer diagnosis, the interval between cancer treatment and onset of heart failure or the application of adjuvant radiotherapy. Given the limited knowledge, use of LVAD therapy in CTrHF is controversial. The purpose of this study was to review the files of all patients CTrHF treated with a continuous-flow LVAD implantation at our institution, with a focus on the analysis of cancer diagnosis and treatment, operative technique, perioperative course, and outcomes. Data from a single center with a proactive approach and its outcome may add important information to the ongoing discussion [2].

The files of all 1334 patients in whom a continuous-flow left-ventricular-assist device (cfLVAD) was implanted between December 2008 and December 2020 were screened as part of this retrospective study for the cause of heart failure. All adult patients with CTrHF were included in the analysis. Preoperative and operative data, including medical history, were reviewed. After LVAD implantation, patients were followed routinely at the center's outpatient department. Therefore, long-term follow-up data were available. The follow-up period ended on 1 March 2021. The study was reviewed and approved by the local ethics committee (EA2/034/21). The committee waived the need for informed written consent for publication of the study data [3].

Our high-volume center for mechanical circulatory support follows a proactive approach to LVAD therapy also in high-risk patients. All cases of cancer-therapy-related severe heart failure were discussed preoperatively in a multidisciplinary team including oncologists, cardiologists, cardiac surgeons, and sometimes radiotherapists and cancer surgeons. The potential surgical success of LVAD implantation and the prognosis on the malignant disease were considered in the decision. Surgery was performed only if the cancer therapy had a curative approach and the cancer-related outcome was regarded as favorable. LVAD implantation was performed *via* a median sternotomy in most cases. Until 2015, LVADs were routinely implanted using cardiopulmonary bypass (CPB). From 2016, CPB has been used in cases requiring concomitant intracardiac procedures (e.g., valve surgery, left ventricular thrombectomy, or patent foramen ovale/atrial septal defect (PFO/ASD) closure). If no concomitant intracardiac procedure was necessary, off-pump techniques were primarily used for LVAD implantation; however, in cases of hemodynamic instability, circulatory support was provided by extracorporeal life support (ECLS) [4].

In patients already on temporary circulatory support (ECLS or Impella), this support was continued during surgery unless intracardiac procedures were necessary, in which case, the circulatory support was switched to cardiopulmonary bypass. Patients with CTrHF were matched for age, sex, body mass index, and INTERMACS profile against a group of patients with heart failure of causes other than cancer therapy who underwent LVAD implantation during the same period. We used stratified Cox regression to estimate the hazard ratio (HR) for mortality between the groups and logistic regression to calculate the odds ratio (OR) for right heart failure. The 95% confidence interval (CI) is based on cluster–robust variances [5].

References

1. Hasselblad V, Stough WG, Shah MR, et al. Relation between dose of loop diuretics and outcomes in a heart failure population: results of the ESCAPE trial. Eur J Heart Fail. 2007;9(10):1064-9.

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2. McKelvie RS, Moe GW, Ezekowitz JA, et al. The 2012 Canadian Cardiovascular Society heart failure management guidelines update: focus on acute and chronic heart failure. Can J Cardiol. 2013;29(2):168-81.

3. Arena R, Cahalin LP, Borghi-Silva A, et al. Improving functional capacity in heart failure: the need for a multifaceted approach. Curr Opin Cardiol. 2014;29(5):467-74.

4. Conraads VM, Van Craenenbroeck EM, De Maeyer C, et al. Unraveling new mechanisms of exercise intolerance in chronic heart failure. Role of exercise training. Heart Fail Rev. 2013;18(1):65-77.

5. O'Connor CM, Whellan DJ, Lee KL, et al. Efficacy and safety of exercise training in patients with chronic heart failure: HF-ACTION randomized controlled trial. Jama. 2009;301(14):1439-50.

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