The use of durable left ventricular assist devices (LVADs) has significantly increased, along with advancements in device technology regarding stability and biocompatibility [1,2]. Pleural effusion (PE) is a recognized complication following LVAD implantation, impacting patient outcomes and management strategies [3]. The condition arises due to various factors, including changes in hemodynamics, inflammation, and lymphatic disruption, associated with the surgical procedure and the device itself [3]. Management of PE in LVAD patients requires a tailored approach considering the unique physiological alterations induced by the device and may involve medical, surgical, or combined interventions [4].

The present study by Lim et al. [5] investigates the clinical implications of PE in patients post-LVAD implantation, differentiating between early and late PE. It particularly scrutinizes the outcomes of therapeutic drainage (TD) and its influence on hospital stay duration and mortality rates. While the study reveals longer hospital stays for patients undergoing TD, it does not find a significant impact on 90-day mortality. A pivotal aspect of the research is its identification of specific predictors for late PE occurrences, highlighting the influence of preoperative conditions such as albumin level on patient outcomes. The study significance is twofold: first, it adds a granular layer of understanding to the management and prognostic implications of PE in a specific patient cohort. Second, it emphasizes the nuanced differences between early and late PE, potentially guiding more tailored and effective management strategies.

However, the interpretation of these results should be approached with a degree of caution. The single-center study design with a relatively small sample size might limit the generalizability of its findings. Hence, while the insights are valuable, they might not be universally applicable across settings or populations. Future studies, ideally with larger sample sizes and multicenter designs, are needed to validate these findings and to refine the management of PE in LVAD patients.

In terms of clinical practice, the study underscores the importance of preoperative assessment and optimization, focusing on modifiable factors like albumin level. This approach might not only enhance postoperative outcomes, but also minimize the length of hospital stay, a crucial factor in patient recovery and healthcare resource utilization. The findings regarding the differential characteristics of early versus late PE are noteworthy, suggesting need for differentiated management strategies based on the timing of PE post-surgery. Overall,
the study is a meaningful contribution to the existing body of knowledge, especially considering the limited research focused on PE in the context of LVAD implantation.

This study by Lim et al. [5] represents an important step in addressing the complexities of PE in the context of LVAD support, highlighting the critical need for individualized management strategies based on the timing of occurrence and underlying patient factors. By identifying key predictors of late PE and examining the impact of TD on patient outcomes, this research provides actionable insights for clinicians aiming to optimize care for this vulnerable patient population. The emphasis on preoperative optimization, especially regarding albumin level, offers a practical approach to improving surgical outcomes and reducing hospitalization times. This is a step forward in refining our understanding and management of a complex condition, contributing to the broader goal of optimizing patient care in the realm of advanced heart failure treatments.

CONFLICT OF INTEREST

Jeehoon Kang is an editorial board member of the journal but was not involved in the peer reviewer selection, evaluation, or decision process of this article. No other potential conflicts of interest relevant to this article were reported.

FUNDING

None.

ACKNOWLEDGMENTS

None.