Measurements of liver stiffness in patients with left ventricular assist devices

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To the editor,

I have read with great interest a manuscript of Omote and colleagues, demonstrating that increased liver stiffness, which was non-invasively assessed by virtual touch quantification on admission, was an independent determinant of all-cause mortality and worsening heart failure in patients hospitalized due to acute decompensated heart failure [1]. Their study was based on the previous finding that liver stiffness was associated with central venous pressure [2]. Thus far, increasing numbers of patients with advanced heart failure receive left ventricular assist device (LVAD) therapy. Although nobody has reported, I believe that the methodology that they used might also be adopted for the follow-up of LVAD patients.

Our team recently demonstrated that hemodynamics, particularly elevated central venous pressure, which was invasively measured by right heart catheterization, was associated with various comorbidities including hemocompatibility-related adverse events such as gastrointestinal bleeding during LVAD supports [3]. Furthermore, we demonstrated that aggressive hemodynamic optimization by adjusting LVAD speed and medications was associated with improvement in clinical outcomes [4]. However, repeated right heart catheterizations have risks of bleeding and infection, particularly under LVAD support with anti-coagulated condition. It might be a future concern to investigate whether liver stiffness-guided hemodynamic optimization would improve clinical outcomes during LVAD support.

Compliance with ethical standards

Conflict of interest The author declares that have no competing interest.

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