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Combined heart-liver transplantation for congestive hepatopathy with bridging fibrosis: Is it warranted?

To the Editor:

We read with interest the article by Sessa *et al.*[1] which comprehensively discusses management of congestive hepatopathy. We applaud the authors for this effort. However, the proposed approach advocating consideration of combined heart-liver transplantation (CHLT) for congestive hepatopathy with bridging fibrosis merits further discussion.

In the spectrum of liver injury and hepatic fibrosis, bridging fibrosis is a distinct histologic entity that precedes cirrhosis. Bridging fibrosis is often referred to as advanced fibrosis or stage 3 fibrosis (F3) by metavir score.[2] The histologic distinction between bridging fibrosis and cirrhosis has important clinical implications. Stage 3 fibrosis is known for its reversibility after resolution of the offending injury. This has been demonstrated in various entities of chronic liver disease. A recent prospective study of patients with non-alcoholic steatohepatitis (NASH) showed, on long-term follow-up after bariatric surgery, that 79% of patients with F3 had fibrosis regression, 15.7% remained with F3, and only 5.2% (1/19 patients) progressed to cirrhosis.[3] Comparable rates of fibrosis regression were noted in other studies in NASH after significant weight loss and in hepatitis C after sustained virological response (SVR).[4,5] Consequently, the rate of hepatic decompensation after resolution of liver injury in patients with advanced fibrosis is low. A study in hepatitis C patients after SVR demonstrated a 10-year cumulative incidence of liver-related mortality or transplantation of 1.9%.[6] Although the data are limited regarding F3-congestive hepatopathy, there is no evidence or plausible explanation to suggest that recovery after resolution of hepatic congestion is different than prior observations in other types of liver injury. Additionally, there has been no clear evidence suggesting that hepatic decompensation occurs in non-cirrhotic stage liver disease after non-hepatic surgery. It is noteworthy that discerning stage 3 from stage 4 fibrosis in congestive hepatopathy can be challenging. Thus, obtaining 2 biopsy passes may be warranted while assessing these patients to reduce the potential for sampling underrepresentation of fibrosis stage.

"Benefit-based allocation" of a scarce organ is another important concept to highlight. In liver transplantation (LT), as a scientific society, we are balancing the concerns of "justice" and "utility".[7] Waitlist mortality for patients with end-stage liver disease awaiting LT remains high.[8] A liver allocated to a CHLT candidate could otherwise be transplanted as a liver alone with superior long-term survival. An analysis of the Scientific Registry of Transplant Recipients database showed that heart transplantation saved 169,715 life-years and LT saved 465,296 life-years, indicating that LT recipients may be benefitting more from the organ due to longer lifespan.[9] Given the reversibility of advanced hepatic fibrosis and uncertainty surrounding benefit of allocation of a scarce organ, we should be cautious in advocating for CHLT in patients with congestive hepatopathy and without clinically significant portal hypertension and bona fide cirrhosis. Doing a liver transplant "out of caution" in these individuals, whose liver function is a reflection of cardiac disease and is expected to improve after heart transplantation, may deprive patients with end-stage liver disease of a life-saving organ while making CHLT recipients incur additional morbidity and mortality unique to LT. Consideration of pros and cons is essential here and prospective studies are certainly needed.

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Conflict of interest

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Authors' contributions

MI, SA, and AS: Drafting of the manuscript and critical revision of the manuscript for important intellectual content.

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Supplementary data

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