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Reply to “Out with the old, in with the new: the improved prognosis of critically ill patients with cirrhosis”

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We thank Majumdar et al for their comments (1) on our work(2) and for highlighting their analysis in a similar cohort from the ANZICS database(3). We agree that these two large epidemiological studies confirm a cohesive narrative of improving hospital survival for adult patients with cirrhosis admitted to intensive care units (ICUs).

Several important clinical and investigative priorities are now important. First, the routine denial of admission to ICUs of these patients is now definitively inappropriate; second the further identification of factors associated with poor prognosis is urgently required, and, the greatest unmet need is a novel therapeutic strategy for those deemed unlikely to survive.

Denial of life-saving therapy is further complicated in patients with acute on chronic liver failure (ACLF)(4) by the increased interest in the use of semi-emergent liver transplantation (LT) in these patients. Artu et al(5) demonstrated an impressive transplant benefit from urgent LT with the pay-off of significant levels of extra-hepatic complications and hospital length of stay. The major barriers to increased use in ACLF is the number of likely candidates pressurizing graft availability, the increased comorbidities in these patients and the high rates of active alcohol use. Therefore, the use of novel therapies such as immune-based therapies, liver assist devices or plasma exchange warrants further investigation. To date only high volume plasma exchange has demonstrated a mortality benefit in acute liver failure (6) but further data on its use in ACLF and other forms of modern liver assist devices are required.

Nevertheless, both our datasets suggest the improvement in mortality is neither related to increased use of LT nor novel therapies but the application of high quality general intensive care measures and prompt admission. Therefore, all ICUs should be encouraged to apply the general measures associated with improved survival for patients with cirrhosis, seek advice from specialist liver or transplant units and provide a trial of organ support to the majority of referred cirrhotic patients. In tandem, urgent research is needed to improve the survival for

the minority who die to further improve the now expected hospital survival for patients with cirrhosis admitted to ICUs.

References

1. Majumdar A, Roberts S, Pilcher D. Out with the old, in with the new: the improved prognosis of critically ill patients with cirrhosis. *Crit Care Med*. 2018 in press.
2. McPhail MJW, Parrott F, Wendon JA, et al. Incidence and Outcomes for Patients With Cirrhosis Admitted to the United Kingdom Critical Care Units. *Critical care medicine*. 2018; 46(5):705–712. [PubMed: 29309369]
3. Majumdar A, Bailey M, Kemp WM, et al. Declining mortality in critically ill patients with cirrhosis in Australia and New Zealand between 2000 and 2015. *J Hepatol*. 2017; 67(6):1185–1193. [PubMed: 28802877]
4. Arroyo V, Moreau R, Jalan R, et al. Acute-on-chronic liver failure: A new syndrome that will re-classify cirrhosis. *J Hepatol*. 2015; 62(1 Suppl):S131–143. [PubMed: 25920082]
5. Artru F, Louvet A, Ruiz I, et al. Liver transplantation in the most severely ill cirrhotic patients: A multicenter study in acute-on-chronic liver failure grade 3. *J Hepatol*. 2017; 67(4):708–715. [PubMed: 28645736]
6. Larsen FS, Schmidt LE, Bernsmeier C, et al. High-volume plasma exchange in patients with acute liver failure: An open randomised controlled trial. *J Hepatol*. 2016; 64(1):69–78. [PubMed: 26325537]