Concise Commentary: Are We Making a Difference? The Impact of Inpatient Gastroenterology and Hepatology Consultations for Cirrhotic Patients

Sarang Thaker¹ · Adam E. Mikolajczyk¹

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The economic burden of cirrhosis, an extremely resource-intensive condition, is staggering and steadily worsening, largely due to the increasing numbers of inpatient admissions with longer lengths of stay (LOS) [1]. As the medical profession shifts toward value-based care, it is essential to understand the determinants of patient outcomes both during and following cirrhosis-related hospitalizations. One factor that may have a positive impact but remains understudied is the use of inpatient gastroenterology/hepatology (GI/Hep) consultations [2, 3].

In this issue of *Digestive Diseases and Sciences*, Serper et al. [4] investigated whether inpatient GI/Hep consultation of patients hospitalized with index cirrhosis-related issues was associated with LOS, readmission rates, inpatient and 90-day mortality, and post-discharge treatment. From 2010 to 2016, the group retrospectively analyzed two national cohorts, one from the Veterans Affairs (VA) termed VOCAL (Veterans Outcomes and Costs Associated with Liver Disease) and one from a private insurer (Optum) using propensity-matched analyses. Surprisingly, only 37% of VOCAL and 42% of Optum cirrhosis-related admissions involved GI/Hep consultations. Second, GI/Hep consultations were associated with increased LOS and increased inpatient and 90-day mortality rates in both cohorts, though a lower 30-day readmission rate was reported only for the VOCAL cohort. Finally, inpatient GI/Hep consultations were associated with increased 7- and 30-day post-hospitalization clinic utilization in both cohorts.

This study should be commended for its rigorous methodology and its use of two large, diverse national cohorts from two different healthcare systems, which handily makes it the

largest, most generalizable study on this topic to date. Nevertheless, as the authors acknowledge, residual confounding bias for disease severity likely explains why GI/Hep consultation is associated with longer LOS and higher mortality. Although, it is conceivable that there may still be causality between GI/Hep consultation and increased LOS (e.g., consultants prevent premature discharges or recommend additional testing), this is unlikely to affect the mortality outcomes. Possible confounders include frailty, nutritional status, and functional status (inclusion of discharge disposition as a covariate in subsequent studies could capture this) or patients' adherence to or engagement with care. Regardless, it is difficult to definitively assess the true impact of inpatient GI/Hep consultants in the presence of unmeasured confounders.

Though several important findings did emerge from the data, each ultimately raised more unanswered questions. For example, what were the factors, such as the growing use of primary GI/Hep inpatient services and provider-specific confidence levels, that contributed to the overall low utilization of GI/Hep consultations? Was the association between inpatient GI/Hep consultations and reduced readmission rates in the VOCAL but not in the Optum cohort due to superior transitions of care in the integrated VA healthcare system as compared with commercial healthcare setting? Does the increased outpatient follow-up care in both cohorts after GI/Hep consultation ultimately benefit patients? Further investigation is still needed to provide answers.

In conclusion, through the authors' thoughtful approach to this study, it has generated several hypothesis-generating findings, but the true impact of inpatient consultation on the quality of cirrhosis care remains unclear. Future studies may consider focusing on other measures of quality, including adherence to process measures or patient-reported outcomes [5].

✉ Adam E. Mikolajczyk
amikolaj@uic.edu

¹ Division of Gastroenterology and Hepatology, Department of Medicine, University of Illinois At Chicago, 840 S. Wood Street, 1034 CSB (MC 716), Chicago, IL 60637, USA

Declarations

Conflict of interest The authors declare no disclosures relevant to this manuscript.

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