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**Novel prognostic biomarkers in decompensated cirrhosis**

Juanola A, Ma A, de Wit K On behalf of LiverHope Investigators, et al. [Novel prognostic biomarkers in decompensated cirrhosis: a systematic review and meta-analysis.](https://gut.bmj.com/content/73/1/156) Gut 2024; 73: 156-165. doi: 10.1136/gutjnl-2023-329923.

In this systematic review and meta-analysis, Juanola et al., delve into novel biomarkers for predicting complications in decompensated liver cirrhosis, known for its heightened short-term mortality risk.

Drawing from prospective and retrospective studies on PubMed and Embase, the study primarily targets 90-day mortality, while also exploring secondary outcomes like 28-day and 1-year mortality, acute-on-chronic liver failure (ACLF), and other cirrhosis-related complications.

Employing the ratio of means (RoM) for comparison of biomarker levels, the meta-analysis reveals several biomarkers associated with a ratio greater than 1 for 90-day mortality, including urinary neutrophil gelatinase-associated lipocalin (uNGAL), copeptin, sCD163 (soluble cluster of differentiation 163), interleukin(IL)-8, cystatin C, tumour necrosis factor (TNF)-α, monocyte chemoattractant protein-1 (MCP-1), liver fatty acid binding protein (LFABP), kidney injury molecule-1 (KIM-1), and soluble mannose reporter (SMR).

The findings for 28-day mortality closely align with those for 90-day mortality, with uNGAL, copeptin, sCD163 cystatin C, TNF-α, MCP-1, KIM-1, IL-6, IL-18 and SMR showing promise. Pooled AUROC (area under the receiver operating characteristic curve) levels derivable for 90-day mortality biomarkers (cystatin C, uNGAL, IL-6, HNA2 (human neutrophil antigen 2), SMR, and sCD163) and 28-day mortality (uNGAL, IL-6, HNA2, and sCD163) ranged between 0.67 and 0.78 with varying confidence intervals.

Secondary outcomes, like ACLF and acute kidney injury, also exhibit promising biomarkers from pooled analysis, such as cystatin C, pNGAL (plasma neutrophil gelatinase-associated lipocalin), IL-6, TNFα, uNGAL, and others.

Despite acknowledged study heterogeneity, scarcity of studies related to biomarkers and outcomes, and limitations associated with RoM, particularly in estimating or discriminating risk, the study underscores the need for further investigation into these promising biomarkers in the context of decompensated liver cirrhosis.