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**A multiomics margin morphology classification system for hepatocellular carcinoma - Fan Z, Jin M, Zhang L, et al.**

Fan Z, Jin M, Zhang L, et al. [*From clinical variables to multiomics analysis: a margin morphology-based gross classification system for hepatocellular carcinoma stratification.*](https://gut.bmj.com/content/72/11/2149) Gut 2023; 72(11): 2149-63. doi: 10.1136/gutjnl-2023-330461

Hepatocellular carcinoma (HCC) is the most common cause of primary liver cancer and among the leading causes of cancer-related deaths globally. Despite advancements in therapeutic modalities, the absence of accessible non-invasive prognostic indicators remains a challenge in hepatocellular carcinoma, hampering informed clinical decision-making.  This study by Fan et al., aims to investigate the role of tumour morphology in oncological survival and conduct multiomics analysis to determine the molecular landscapes among distinct HCC gross subtypes and optimise the classification system, culminating in the development of a margin morphology classification (MMC) system. The study encompasses a prospective cohort comprising 400 patients who underwent hepatic resection for solitary HCC between 2017 and 2021 at the First Hospital of Jilin University, China. Multiomics analyses are conducted on both tumorous and non-tumorous tissues obtained from 49 patients to delineate the mechanistic underpinnings of gross classification. To mitigate potential confounding variables, Inverse Probability of Treatment Weight (IPTW) statistics is employed. The outcomes reveal substantial variations in three-year survival rates across four distinct gross subtypes of HCC (Type-I: 91%, Type-II: 80%, Type-III: 74.6%, and Type-IV: 38.8%). Each gross subtype manifests distinctive transcriptional modules, with Type-IV HCC exhibiting heightened angiogenesis, immune scores, TP53 (Tumour protein P53) mutations, and diminished metabolic pathways. Drawing from these findings, the Fan et al., proposed a gross classification system, attainable through radiological examinations. This system holds promise for tailoring individualized treatment strategies for HCC, thereby addressing a critical gap in the current clinical landscape.