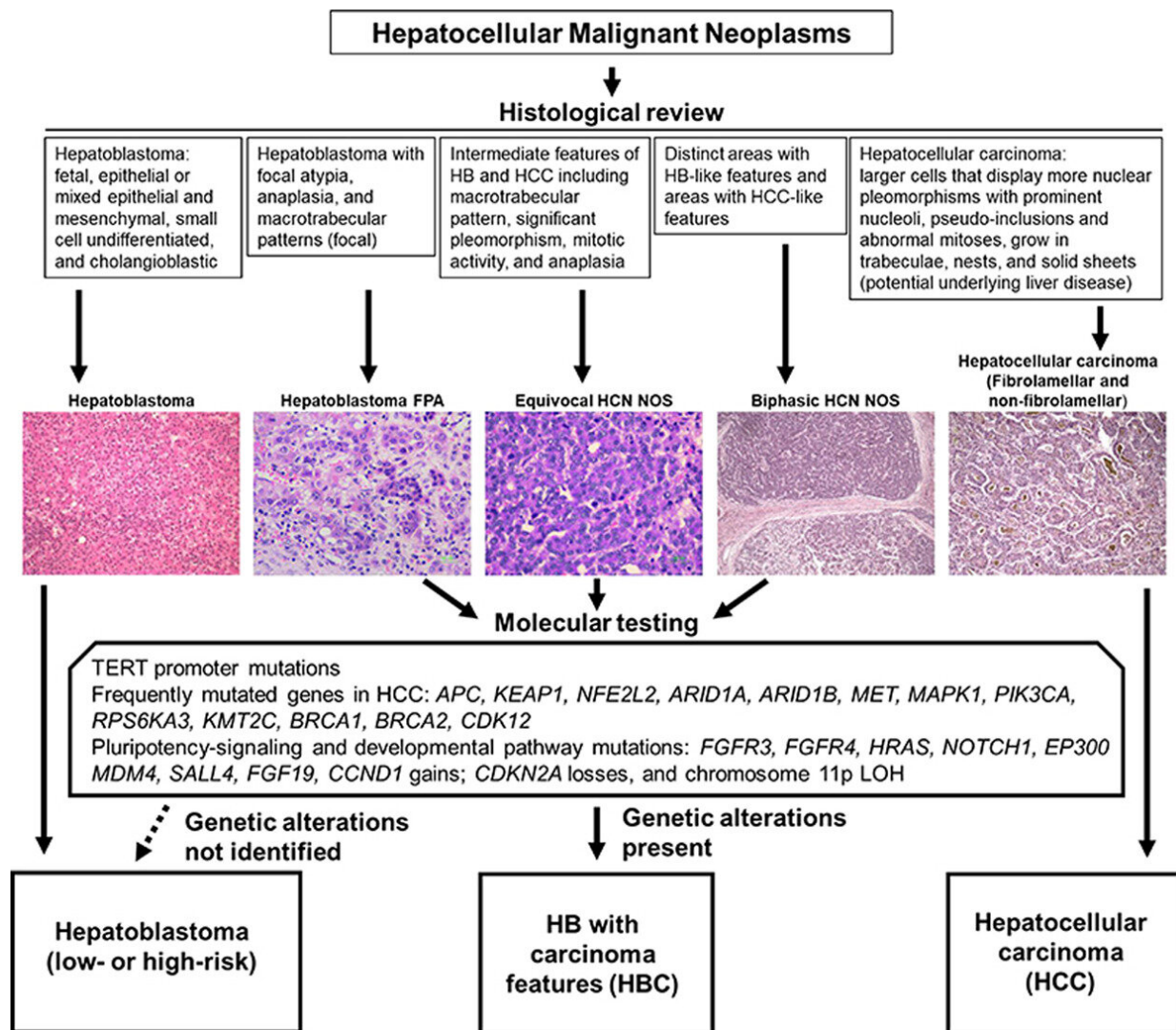


New molecular subset of pediatric liver cancer identified

May 18 2022, by Molly Chiu



Graphical abstract. Credit: *Journal of Hepatology* (2022). DOI: 10.1016/j.jhep.2022.04.035

New research from Baylor College of Medicine and Texas Children's Cancer Center characterizes a new molecular type of high-risk pediatric liver cancer. The study, published in the *Journal of Hepatology*, showed that these tumors have better outcomes when patients were treated by transplantation, rather than by chemotherapy and surgery alone.

"Until recently, nearly all pediatric liver cancers were classified as either hepatoblastoma or [hepatocellular carcinoma](#)," said Dr. Pavel Sumazin, associate professor of pediatrics at Baylor College of Medicine and Texas Children's Cancer and Hematology Center and the first author of the study. "However, pediatric pathologists observed that some [liver tumors](#) have histological features that do not easily fit the hepatoblastoma or hepatocellular [carcinoma](#) models. These cancers are less likely to respond to chemotherapy, and patient outcomes are poor."

The researchers examined the molecular profiles of the tumors, including genetic alterations and gene expression profiles, and they found that these profiles do not fit into the hepatoblastoma (HB) or hepatocellular carcinoma (HCC) molecular categories. Instead, these tumors exhibited recurring molecular features that have been observed in both HBs and HCCs. They designated these tumors as hepatoblastomas with hepatocellular carcinoma features (HBCs).

The team also examined HBC treatments and outcomes and found that they tended to be more resistant to standard chemotherapy and have poor outcomes when not treated with more aggressive surgical approaches, including transplantation. Based on their findings, the team proposed a diagnostic algorithm to stratify HBCs and guide specialized treatment.

"Our findings highlight the importance of molecular testing to accurately classify these tumors to optimize [treatment recommendations](#) at the time of initial diagnosis," said Dr. Dolores Lopez-Terrada, corresponding author of the paper, professor of pathology, immunology and pediatrics

at Baylor and chief of the division of genomic medicine at Texas Children's. "Our analysis suggested that children with HBCs may benefit from treatment strategies that differ from the guidelines for patients with hepatoblastoma and hepatocellular carcinoma."

More information: Pavel Sumazin et al, Hepatoblastomas with carcinoma features represent a biological spectrum of aggressive neoplasms in children and young adults, *Journal of Hepatology* (2022). [DOI: 10.1016/j.jhep.2022.04.035](https://doi.org/10.1016/j.jhep.2022.04.035)

Provided by Baylor College of Medicine

Citation: New molecular subset of pediatric liver cancer identified (2022, May 18) retrieved 26 June 2024 from <https://medicalxpress.com/news/2022-05-molecular-subset-pediatric-liver-cancer.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.