



Liver Cancer's Changing Therapeutic Landscape

New treatments, particularly immunotherapies, are providing durable benefits for hepatocellular carcinoma patients.

In a review article published in the journal *Expert Opinion on Emerging Drugs*, researchers and clinicians at Sylvester Comprehensive Cancer Center at the University of Miami Miller School of Medicine have shared how emerging therapies are increasing lifespans for patients with hepatocellular carcinoma (HCC), the most common form of liver cancer.



Patricia Jones, M.D.,
assistant professor of



medicine in the Division of Hepatology and a co-author on the paper

The article, titled “Emerging drugs for the treatment of hepatocellular carcinoma,” describes the full gamut of clinical responses, including early-stage screening, surgeries, and systemic and localized therapies. In particular, the paper discusses how immunotherapies are changing liver cancer care.

“These newer agents, particularly combination therapies, are revolutionizing the way we care for patients,” said Patricia Jones, M.D., assistant professor of medicine in the Division of Hepatology and a co-author on the paper. “These can shift someone who was not eligible for potentially curative surgery to someone who is now a candidate.”

Worldwide, HCC is the second leading cause of cancer death. In 2020, there were 900,000 new cases. These tumors are generally driven by liver damage from hepatitis, alcoholism, or fatty liver disease. While surgery can cure patients, HCC is often diagnosed in later stages, taking these procedures off the table.

Medications Are Powerful Singly and Combined

However, new therapies are having a remarkable impact on HCC mortality. For example, atezolizumab is an immunotherapy that inhibits a protein called PD-L1, taking advantage of a signaling mechanism that tumors use to tell the immune system they are normal tissue. Atezolizumab takes the blindfold off, allowing immune T cells to go on the attack.



Paul Martin, M.D., professor, chief of the Division of Digestive Health and Liver Diseases, and senior author on the paper

Another example is the VEGF inhibitor bevacizumab. VEGF is a gene that initiates blood vessel growth, and tumors often turn it on to bring in more blood, oxygen, and nutrients to support their rapid growth. These two drugs are powerful on their own and can be even more effective in combination.

“Some of the combinations we’re seeing can really alter tumor microenvironments,” said Paul Martin, M.D., professor, chief of the Division of Digestive Health and Liver Diseases, and senior author on the paper. “That sets the stage for



significant reductions in tumor size and introduces a surgical option, even for people who have been diagnosed with later-stage disease.”

The paper mentions several other new agents, and there are more in the pipeline. This is good news, but it also poses a new problem: What are the best ways to combine these medicines to produce maximum efficacy and minimal side effects? UM hepatologists are currently planning a number of clinical trials to test multiple therapies and find the most effective combinations.

The article’s authors believe this review will educate both patients and clinicians on the many emerging therapies to treat HCC. In addition, the team wants to ensure that all patients have access to the most effective anti-cancer drugs.

“I'm really optimistic,” said Dr. Jones. “It’s nice to live in a time when we can witness so much positive change in liver cancer care. However, there’s an underlying issue with access to care and access to therapy. That’s a difficult problem, but it’s solvable, and we need to solve it.”

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