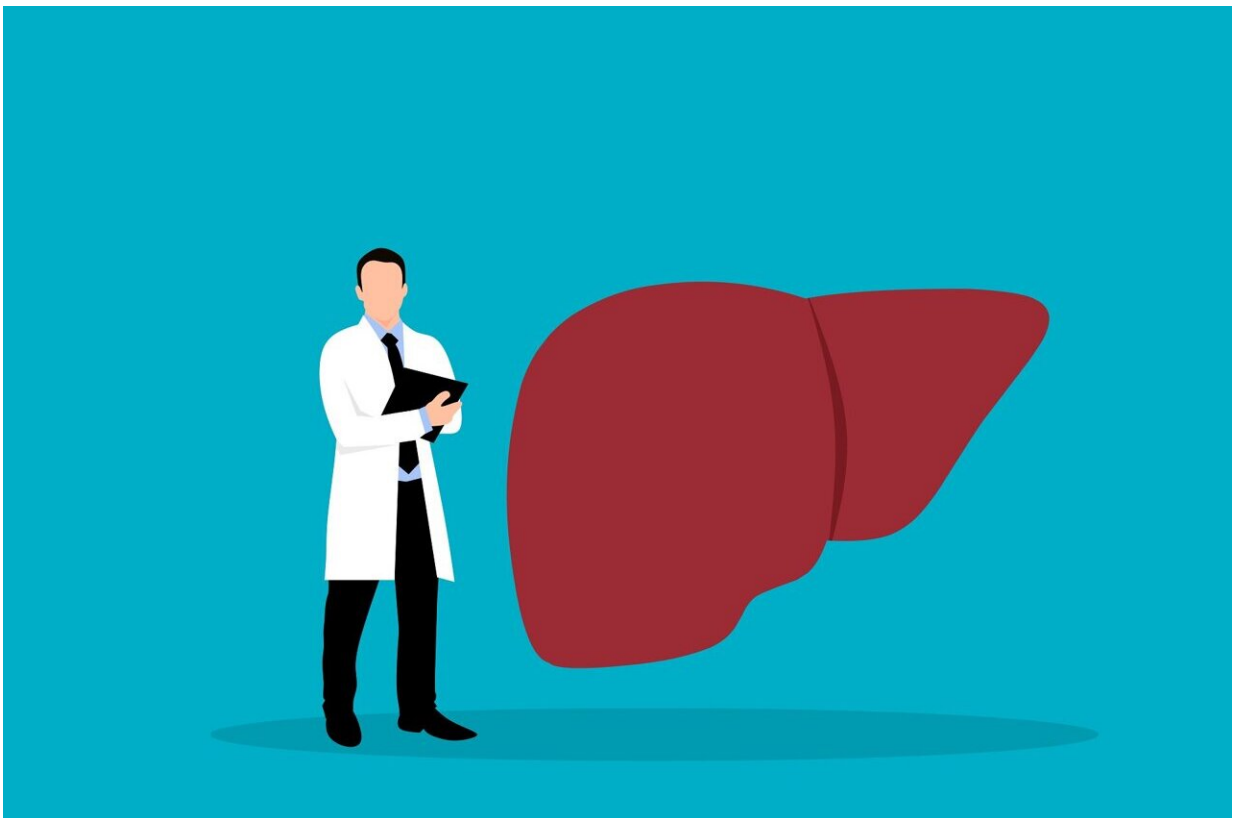


# Research examines benefits of perioperative radiotherapy for treating liver cancer with high recurrence risk

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More than two-thirds of patients with hepatocellular carcinoma (HCC) who receive surgical interventions experience recurrence owing to lack

of an established perioperative treatment. Now, researchers from Korea University have performed a meta-analysis to examine the oncological benefits of administering radiotherapy before or after surgery. The findings suggest that perioperative radiotherapy decreases the chances of recurrence in patients, improving their survival rate.

Hepatocellular carcinoma (HCC), or [liver cancer](#), is primarily treated by surgically removing the tumor. However, the chances of recurrence of HCC within five years are high. This emphasizes the need for an adjuvant treatment like [radiotherapy](#) along with surgery for treating HCC patients with a high risk of recurrence. Although the benefits of perioperative treatment have been studied for various cancers, the oncological benefits of radiotherapy for the treatment of HCC are less explored.

Now, a team of researchers, including Professor Chai Hong Rim from Korea University Medical College in Korea and his colleagues, have explored the therapeutic effects of perioperative radiotherapy for treating HCC.

In their work, [published](#) in the *International Journal of Surgery*, they found that perioperative radiotherapy, or the administration of radiotherapy during a [surgical procedure](#), significantly improves [survival rates](#) among HCC patients at high risk of recurrence.

"We investigated if perioperative radiotherapy could provide enhanced benefits, in regard to recurrence and survival, compared to surgery by systematically reviewing the studies and evaluating the data using [meta-analysis](#)," explains Prof. Rim

In the studies examined by the researchers, patients received perioperative radiotherapy for two major reasons. The first was portal vein thrombosis, which refers to the invasion of HCC into the major

vessel inside the liver, and the second was narrow resection margin, a condition where there is an inadequate mass of healthy tissue surrounding the tumor, which makes complete removal challenging.

The researchers evaluated two separate outcomes of the studies included in the meta-analysis— overall survival (OS) and disease-free survival (DFS). OS refers to the period of time from the start of cancer treatment to the patient's death, while DFS refers to the period after treatment during which there are no signs of disease recurrence.

They found that perioperative radiotherapy provided significant OS and DFS benefits, regardless of the reason, although the OS and DFS differed between the subgroups. Kim.

Overall, the findings suggest significant improvements in both outcomes among HCC patients who received perioperative radiotherapy compared to patients who did not receive the adjuvant treatment. "Radiotherapy proves to be a significant adjuvant treatment as it not only reduces the recurrence rate but also improves the survival rate in high-risk groups for recurrence after surgery," says Prof. Rim

The benefits of perioperative radiotherapy uncovered by this meta-analysis implies that the incorporation of this adjuvant treatment could improve treatment outcomes for millions of patients.

"Our study lays the foundation for the international use of radiotherapy as an adjuvant with surgery for the treatment of HCC," concludes Prof. Rim.

**More information:** Chai Hong Rim et al, Benefit of perioperative radiotherapy for hepatocellular carcinoma: a quality-based systematic review and meta-analysis, *International Journal of Surgery* (2023). [DOI: 10.1097/JS9.0000000000000914](https://doi.org/10.1097/JS9.0000000000000914)

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