

IMPACT OF RADIATION THERAPY ON BILIARY COMPLICATIONS IN LIVER TRANSPLANT HEPATOCELLULAR CARCINOMA RECIPIENTS WITH HOMA: A PROPENSITY SCORE-MATCHED ANALYSIS

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Background : The role of radiation therapy (RT) in managing hepatocellular carcinoma (HCC) patients has significantly expanded. Therefore, the use of radiation therapy for pre-transplantation has also increased these days. However, its impact on post-transplant outcomes, particularly biliary complications, is not well defined. This study aims to evaluate the effect of RT on biliary complications in LT recipients with HCC, utilizing propensity score-matching method for analysis.

Methods : A retrospective study was conducted on 1,008 HCC patients underwent LT between January 2018 and December 2023. Patients were classified into RT and non-RT groups. Propensity score matching was performed to ensure comparability. As the primary outcome, biliary complications were assessed. Logistic regression method was employed to analyze risk factors.

Results : RT was associated with an increased risk of biliary complications in both unmatched and matched analyses, particularly in biliary stricture ($p = 0.005$). Logistic regression analysis identified RT as an independent risk factor for biliary complications, with the unmatched cohort showing an OR of 1.642 ($p = 0.033$) and the matched cohort demonstrating an OR of 1.960 ($p = 0.015$). Other factors like separated multiple bile duct anastomosis ($p = 0.019$) and dual LDLT (Living donor liver transplantation) ($p = 0.004$) are also significant risk factors of bile duct complication.

Conclusions : RT in LT recipients with HCC is associated with a higher risk of biliary complications. Also, separated multiple bile duct anastomosis and dual LDLT can affect post-transplantation outcome. Future prospective studies are necessary to optimize RT protocols and improve outcomes in this population.

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