

Category: Prognosis, Survival, and Treatment Related Complications

Title: The interval less than one month between TACE and subsequent hepatic RT does not contribute to an increased risk of radiation-induced liver disease

Yo-Liang Lai Yu-Cheng Kuo Ji-An Liang Shang-Wen Chen

Department of Radiation Oncology, China Medical University Hospital, Taichung, Taiwan

Purpose: In patients with hepatocellular carcinoma (HCC) combined with portal vein tumor thrombosis(PVTT), hepatic radiotherapy (RT) has been increasingly applied following transcatheter arterial chemoembolization (TACE). This study was to investigate the impact of the interval between TACE and RT on the risk of radiation-induced liver disease (RILD).

Materials & Methods: Between January 2010 and June 2014, 63 patients with advanced HCC receiving hepatic RT after TACE were included for this analysis. Forty-one (65.1%) had chronic hepatitis B virus-related HCC. The majority of patients were BCLC stage C (A-7, B-12, C-44), and Child-Pugh score A (A5-39, A6-18, B7-6). The RILD was defined as any event with anicteric hepatomegaly or ascites, an elevated alkaline phosphatase (>2 times of upper limit of normal), elevated liver transaminases (>5 times of upper limit of normal), or a decline in liver function (Child-Pugh score ≥ 2) within 3 months after RT. Patient- and RT-related data, number of TACE, interval between TACE and RT, and several staging/scoring parameters were retrieved for the analysis. Logistic regression analysis was used to identify the predictors for RILD.

Results: With a median follow-up duration of 9 months, 21 patients (33.3%) experienced the RILD. The median duration between TACE and RT was 47 days, and patients were stratified with short and long interval groups according to the duration <30 and ≥ 30 days. Of all, patients with hepatitis B and preradiotherapy Child-Pugh score > 5 were two predictors for RILD [43.9% vs 13.6%, Odds ratio(OR) 4.96, 95% confidence interval (CI) 1.27-19.41; $p=0.002$; 42.3% vs 27%, OR :1.98, 95% CI: 0.68-5.74, $p=0.03$]. The interval between TACE and RT was not related to higher risk of RILD (38.8% vs 31.1%, $p=0.54$).

Conclusion: In patients with HCC requiring RT in conjunction with TACE, the interval less than one month is not associated with an increased risk of developing RILD. Instead, hepatitis B carriers and those with preradiation therapy Child-Pugh score >5 should be treated with caution.