

Comparison of TACE combined with or without aggressive CT-guided RFA for hepatocellular carcinoma beyond the milan criteria: A propensity score analysis

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Purpose: Propensity score analysis is a reliable method to estimate the effects of treatments or interventions from analyses of large observational databases. The study was designed to retrospectively compare combined transarterial chemoembolization (TACE) and CT-guided radiofrequency ablation (RFA) with TACE alone for the treatment of hepatocellular carcinoma (HCC) beyond the Milan criteria with the propensity score analysis.

Materials & Methods: 204 patients with HCC beyond the Milan criteria underwent lipiodol-based TACE treatments (TACE group) and 122 ones underwent TACE + CT-guided RFA (TACE + RFA group) were analyzed. With the baseline differences adjusted by propensity score analysis, 103 matched pairs of HCC patients were selected from each treatment group. Long-term survival rate was evaluated by the Kaplan-Meier method. Independent prognostic predictors were determined with the Cox proportional hazards model.

Results: For the propensity model, 103 patients were selected from each arm of the study. In the propensity score analysis, the 1-, 3-, and 5-year overall survival rates for selected patients were 51.5%, 13.6%, and 2.9%, respectively, for TACE group and 90.2%, 45.6%, and 12.6%, respectively for TACE+RFA group ($P < 0.01$). The 1-, 3-, and 5-year progression free survival (PFS) rates were 19.0%, 5.5%, and 0% for the TACE group and 45.2%, 17.5%, and 4.2% for the TACE+RFA group ($P < 0.001$). Patients receiving TACE alone had significant risk for severe hepatic dysfunction ($P < 0.01$) and less severe hemorrhage ($P < 0.01$) compared to patients in the TACE+RFA group. The vascular invasion, lesion counts ≥ 3 , ECOG ≥ 0 and the Child-Pugh class B were analyzed as the prognostic factors.

Conclusion: TACE combined with CT-guided RFA provides better survival benefits for patients with HCC beyond the Milan criteria than TACE alone.

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