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Ultrasound Guided Microwave Ablation and Transarterial Chemoembolization for Unresectable Solitary-Nodule Hepatocellular Carcinoma – a Head-to-Head Survival Comparison

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Introduction

To compare the overall survival (OS) of patients treated with ultrasound guided microwave ablation (MWA) and transarterial chemoembolization (TACE) for a solitary hepatocellular carcinoma (HCC) nodule.

Methods

A consecutive series of patients with a solitary, unresectable, HCC nodule under 5 cm in its largest diameter was prospectively enrolled from November 2015 to December 2019. The patients received either MWA or TACE. Treatment selection was decided by the institutional Tumor Board according to the most recent guidelines, considering tumor characteristics, underlying liver function and patient preference. OS was compared using the log-rank test.

Results

A total of 107 patients were enrolled, of which n=77 (71.9%) were treated with MWA and n=30 (28.1%) were treated with TACE. Patients in the TACE group had larger nodules (34 ± 9 vs. 23 ± 8 mm, $p < 0.001$). There were no other significant differences between groups with regards to patient characteristics. Complete response rate was higher in the MWA group (92.4% vs. 70%, $p < 0.001$). OS was significantly higher in the MWA group: 52 ± 3 months vs. 24 ± 1 months for the TACE group (log-rank 10.25, $p < 0.001$). Subgroup analysis was performed for patients with tumor size exceeding 3 cm. The difference in OS between groups persisted: patients who received MWA (n=11) had an OS of 47 ± 5 months vs. 22 ± 2 months for TACE (log-rank 4.41, $p = 0.03$).

Conclusion

Ultrasound guided MWA provided a better outcome for patients with solitary unresectable HCC nodules, when compared to TACE. Whenever possible, prioritization of MWA appears to be desirable.