Efficacy of Adjuvant Immunotherapy After Radiofrequency Ablation for Hepatocellular Carcinoma

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Introduction / Methods

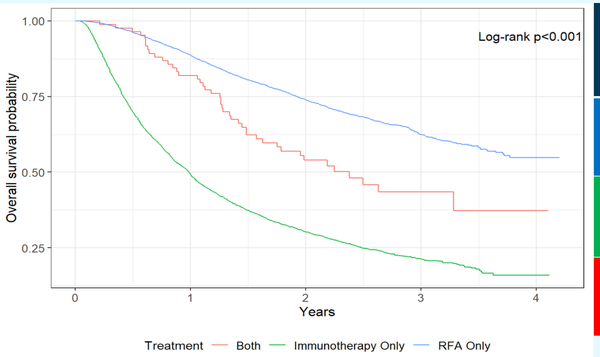
Hepatocellular carcinoma (HCC) is the most common primary liver cancer. While surgical resection is the mainstay of treatment, radiofrequency ablation is an appropriate alternative for tumors < 3.5 cm in size. The role for adjuvant systemic immunotherapy after ablation is not well defined.

We performed retrospective analysis on data obtained from the National Cancer Database. We examined patients diagnosed with HCC from 2020-2022 who underwent ablation, immunotherapy, or combination therapy. We excluded patients who received surgical resection, patients with distal metastasis at time of diagnosis, and patients who did not receive treatment.

Patient Characteristics

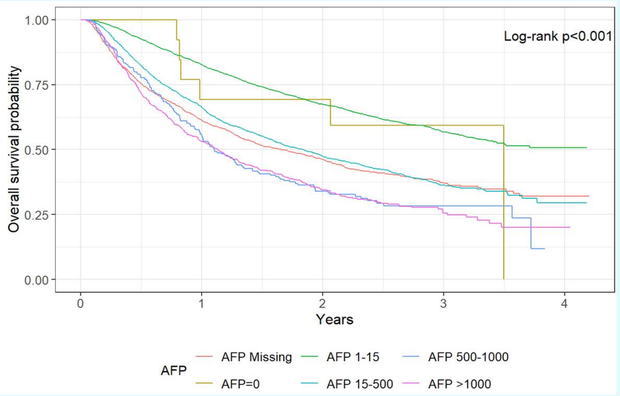
	RFA	Immunotherapy	Both	Overall
Number of patients	3920	3379	85	7384
Male	2815 (71.8%)	2685 (79.5%)	67 (78.8%)	5567 (75.4%)
Female	1105 (28.2%)	694 (20.5%)	18 (21.2%)	1817 (24.6%)
Age at diagnosis	67.0	66.7	66.4	66.9
Initial AFP	125	951	470	482
Tumor size	27.9 mm	83.0 mm	50.0 mm	51.9 mm

Results



	4-y Survival (Overall Cohort)	4-y Survival (Tumor Size <3 cm)
RFA only	55%	57%
Immunotherapy only	16%	14%
Both	37%	48%

Figure 1: Kaplan-Meier Survival Curves by Treatment



AFP value	Survival at 48 months
0	59%
1-15	57%
15-500	36%
500-1000	28%
> 1000	26%

Figure 2: Kaplan-Meier Survival Curves by AFP

Discussion

RFA-only 4-year survival was 55%, whereas the lowest was in the immunotherapy only group (**Figure 1**). This includes all tumor sizes; subsequent subgroup analysis evaluating tumors <3 cm similarly showed that RFA-only patients experienced superior survival to those patients treated with immunotherapy.

Patients with higher AFP value were also assessed for differences in survival. AFP >500 is associated with decreased survival (**Figure 2**). Higher AFP value implies a larger tumor burden or higher risk-tumor, which would is associated with lower survival.

Our study does have several limitations. The National Cancer Database does not include data regarding the specific tumor biology of these patients nor degree of underlying liver dysfunction, which would contribute to survival. We also had a small sample size of patients who received combination therapy, which limits the usefulness of that comparison.

Resources

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