



Editorial

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Radiofrequency for hepatocellular carcinoma larger than 3 cm: potential for applications in daily practice

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Radiofrequency ablation (RFA) represents an alternative for the treatment of hepatocellular carcinoma (HCC) in cases where resection or transplantation is not possible. Owing to the natural advantage of its effective treatment for small tumors with no skin incision and the associated reduction in complications and treatment time, ablation is currently the mainstay of treatment for very early- and early-stage HCC.¹ The recent Barcelona Clinic Liver Cancer (BCLC) strategy update and many published studies suggest that the survival outcomes of patients with HCC with lesions ≤ 3 cm are comparable to those of patients treated with resection. In 2013, Cucchetti et al.² performed a meta-analysis comparing RFA and hepatic resection. They found that for patients with single HCC lesions < 2 cm and patients with two or three HCC lesions ≤ 3 cm, RFA was more cost-effective than hepatic resection. The 2017 prospective randomized controlled trial by Ng et al.,³ in which the outcomes of patients with early HCC (solitary tumor ≤ 5 cm or no more than three lesions, each ≤ 3 cm) treated with hepatic resection and RFA were compared, revealed no significant difference in overall survival and disease-free survival between the two groups. Additionally, the findings of the recent multicenter, randomized, phase 3 SURF trial by Takayama et al.⁴ also revealed no significant difference in overall survival and recurrence-free survival between patients with small HCCs treated with surgery and those treated with RFA for lesions ≤ 3 cm and three nodules.

In this issue of *Journal of Liver Cancer*, Kariyama et al.⁵ sought to clarify the efficacy of hepatic resection and RFA in patients with

HCC. They conducted a retrospective study using the Real-life Practice Experts for HCC (REPLEC) study group database. After thorough analysis via propensity score matching, no significant differences in overall and recurrence-free survival were observed in groups with lesions ≤ 3 cm. In the group with lesions > 3 cm but ≤ 5 cm, no significant difference was observed in overall survival either. However, a significant difference was observed in recurrence-free survival, wherein hepatic resection was superior to RFA.

Hepatologists worldwide would concur that RFA is as effective as hepatic resection when the lesion is ≤ 3 cm.⁶ The BCLC strategy also addresses this issue. Further, as the article mentions, the Korean and Japanese guidelines recommend ablation for patients with lesions ≤ 3 cm, while the Taiwanese guideline recommend ablation for patients with lesions < 5 cm.⁷⁻⁹

A recent study on the safety of hepatectomy for HCC in elderly patients demonstrated that age ≥ 70 years, male sex, low hospital volume, and surgical procedures were independent predictors of mortality.¹⁰ Moreover, considering the disadvantages of surgical treatment, including postoperative complications, such as infection, bleeding, and increased admission days, and the absence of significant differences in the overall survival between RFA and hepatic resection, RFA may be considered a superior choice, especially in older patients or those with comorbid conditions.

Conflicts of Interest

Pil Soo Sung is an editorial board member of *Journal of Liver*

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Cancer, and was not involved in the review process of this article. Otherwise, the authors have no conflicts of interest to disclose.

Ethics Statement

This editorial is fully based on the articles which were already published and did not involve additional patient participants. Therefore, IRB approval is not necessary.

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Data Availability

Not applicable.

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