

INPLASY PROTOCOL

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None declared.

Repeat resection versus percutaneous ablation for recurrent hepatocellular carcinoma: a meta-analysis

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Review question / Objective: Liver resection (LR) and radiofrequency ablation (RFA) are commonly used for the treatment of recurrent hepatocellular carcinoma (HCC), but the optimal treatment modality remains unclear. We aimed to compare the efficacy and safety of LR vs RFA for recurrent HCC.

Eligibility criteria: Studies eligible for inclusion met the following criteria:(a) Types of studies: RCTs or PSM analyses;(b) Diseases: rHCC after initial surgical resection;(c) Types of interventions: RR versus PA;(d) Languages: not limited.Studies were excluded if they were: (a) non-RCTs or non-PSM analyses; (b) rHCC after trans-arterial chemoembolization (TACE) or ablation;(c) case reports and reviews.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 April 2022 and was last updated on 19 April 2022 (registration number INPLASY202240117).

INTRODUCTION

Review question / Objective: Liver resection (LR) and radiofrequency ablation (RFA) are commonly used for the treatment of recurrent hepatocellular carcinoma (HCC), but the optimal treatment modality remains unclear. We aimed to compare the efficacy and safety of LR vs RFA for recurrent HCC.

Condition being studied: Hepatocellular carcinoma (HCC) is the sixth most common cancer and the fourth leading cause of cancer-related mortality worldwide. In recent decades, although great advances have been made in the diagnosis and treatment of patients with HCC, the long-term prognosis of HCC remains unsatisfactory due to the high recurrence rate. The cumulative 5-year recurrence rate after curative treatment is up 70–80%. Thus, an effective therapeutic strategy for

recurrence is crucial to prolong survival for HCC patients. Strategies for treating primary HCC, including liver resection(LR), liver transplantation, radiofrequency ablation (RFA), and transcatheter arterial chemoembolization (TACE), have been widely used to treat recurrent HCC in clinical practice. However, the optimal treatment for recurrent HCC remains controversial. LR is the most commonly considered first-line therapy for recurrent HCC due to the donor shortage. However, its feasibility may be limited by multifocal recurrent nodules, a small liver remnant, and inadequate liver functional reserve. RFA, as a minimally invasive and reproducible therapy, has been widely considered as an effective and safe alternative to LR in primary small HCC [8,9], but its role in the treatment of recurrent HCC remains unclear. A growing number of clinical studies have compared survival outcomes of recurrent HCC patients who received LR or RFA. However, most are small series and controversy exists among the results.

METHODS

Search strategy: (((((liver cancer) OR (hepatocellular carcinoma)) OR (HCC)) AND ((recurrent) OR (recurrence))) AND (ablation)) AND ((surgery) OR (resection)).

Participant or population: Recurrent HCC.

Intervention: Repeat resection.

Comparator: Percutaneous ablation.

Study designs to be included: Studies eligible for inclusion met the following criteria:(a) Types of studies: RCTs or PSM analyses;(b) Diseases: rHCC after initial surgical resection;(c) Types of interventions: RR versus PA;(d) Languages: not limited.Studies were excluded if they were: (a) non-RCTs or non-PSM analyses; (b) rHCC after trans-arterial chemoembolization (TACE) or ablation;(c) case reports and reviews.

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Information sources: The PubMed, Embase, Wanfang, and CNKI databases were searched to identify relevant articles published as of April 2022.

Main outcome(s): Disease-free survival.

Quality assessment / Risk of bias analysis: The Cochrane risk-of-bias tool and Newcastle-Ottawa scale.

Strategy of data synthesis: For dichotomous variables, pooled odds ratios (ORs) with 95% confidence intervals (CIs) were calculated, while continuous variables were compared using mean differences (MD) values with 95% CIs.

Subgroup analysis: None.

Sensitivity analysis: Yes.

Language: English.

Country(ies) involved: China.

Keywords: repeat resection; ablation; recurrent; hepatocellular carcinoma; ultrasound.

Contributions of each author:

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