INPLASY PROTOCOL

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None declared.

Comparison of the efficacy and safety of repeated hepatectomy and radiofrequency ablation in the treatment of primary recurrent liver cancer: a meta-analysis

Chen, Z[1]; Wang, J[2]; Lin, Y[3].

Review question / Objective: **We conducted a meta-analysis to compare the efficacy and safety, in order to provide evidence-based evidence for future research and clinical treatment.**
Condition being studied: **The clinical treatment of recurrent liver cancer has not yet reached a consensus, and there is still controversy about the comparison of the efficacy and safety of RH and RFA in the treatment of recurrent liver cancer. Therefore, this study conducted a meta-analysis by systematically reviewing relevant literature to compare the efficacy of RH and RFA in the treatment of recurrent liver cancer, in order to provide evidence-based evidence for future research and clinical treatment.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 May 2022 and was last updated on 19 May 2022 (registration number INPLASY202250119).

INTRODUCTION

Review question / Objective: **We conducted a meta-analysis to compare the efficacy and safety, in order to provide evidence-based evidence for future research and clinical treatment.**

Rationale: **We conducted a meta-analysis to compare the efficacy and safety, in order to provide evidence-based evidence for future research and clinical treatment.**

Condition being studied: **The clinical treatment of recurrent liver cancer has not yet reached a consensus, and there is still**

controversy about the comparison of the efficacy and safety of RH and RFA in the treatment of recurrent liver cancer. Therefore, this study conducted a meta-analysis by systematically reviewing relevant literature to compare the efficacy of RH and RFA in the treatment of recurrent liver cancer, in order to provide evidence-based evidence for future research and clinical treatment.

METHODS

Search strategy: ('liver neoplasms' OR 'liver neoplasm' OR 'hepatic neoplasms' OR 'hepatic neoplasm' OR 'cancer of liver' OR 'hepatocellular cancer' OR 'hepatocellular cancers' OR 'hepatic cancer') AND (recurrent OR recurrence OR relapse OR recurring) AND ('radiofrequency ablation' OR 'radio frequency ablation' OR 'radio-frequency ablation') AND ('repeated hepatic resection' OR 're-hepatectomy' OR 'repeat hepatectomy' OR 'hepatic resection' OR 'repeated resection' OR 're-resection' OR 'liver resection' OR 'surgical resection' OR 'redo hepatectomy' OR 'repeat liver resection').

Participant or population: Patients with recurrent liver cancer.

Intervention: The observation group underwent repeated hepatectomy.

Comparator: The control group underwent radiofrequency ablation.

Study designs to be included: Randomized controlled trials or cohort studies or case-control studies.

Eligibility criteria: Inclusion criteria: Study object: Patients with recurrent liver cancer.Intervention measures: The observation group underwent repeated hepatectomy. Control: The control group underwent radiofrequency ablation. Outcome indicators: The 1-, 3-, and 5-year overall survival (OS) rates and disease-free survival (DFS) rates.Study design: Randomized controlled trials or cohort studies or case-control studies, the language is limited to English. Exclusion criteria: Primary liver cancer or other non-recurrent liver cancer; The observation group did not receive repeated hepatectomy or the control group did not receive radiofrequency ablation;Rate values for OS or DFS were not reported or could not be extracted from the study; Duplicate publication, research without full text, incomplete information or inability to conduct data extraction, animal experiments, reviews and systematic reviews.

Information sources: We searched Pubmed, Embase, Cochrane Library from establishment of the database

Main outcome(s): 1-year OS rate, 3-year OS rate, 5-year OS rate, 1-year DFS rate, 3-year DFS rate, 5-year DFS rate and postoperative Clavien-Dindo (CD) grade II or higher complication rate.

Data management: The literature search, screening (title and abstract screening and full text screening), and information extraction were all independently completed by two researchers. When there were doubts or disagreements, the decision was made after discussion with a third person.

Quality assessment / Risk of bias analysis: Two researchers independently conducted literature quality evaluations using the Newcastle-Ottawa Scale (NOS) for cohort study. NOS includes 4 items (4 points) for “Research Subject Selection”, 1 item (2 points) for “Comparability between Groups” and 3 items (3 points) for “Result Measurement”, with a full score of 9 points and ≥7 is regarded as High-quality literature, <7 is divided into lower-quality literature.When the opinions are inconsistent, it is decided through discussion or consultation with the third person. The meta-analysis was performed based on the related items of the Preferred Reporting Items for Systematic Reviews and Meta-analysis statement (PRISMA statement).

Strategy of data synthesis: STATA 15.1 was used to analyze the data. OR (95%CI) was

used to evaluate the difference in OS rate, DFS rate and complication rate between RH and RFA. I2 is used to evaluate heterogeneity. If the heterogeneity test is P≥0.1 and I2≤50%, it indicates that there is homogeneity between studies, and the fixed effects model is used for combined analysis; if P50%, it indicates that the study If there is heterogeneity, use sensitivity analysis to find the source of heterogeneity. If the heterogeneity is still large, use the random effects model or give up the combination of results and use descriptive analysis . Funnel plot and Egger's test was used to analyze publication bias.

Subgroup analysis: Subgroup analysis of OS and DFS according to different follow-up time.

Sensitivity analysis: Sensitivity analysis eliminates each included study one by one, and performs a summary analysis on the remaining studies to assess whether a single included study has an excessive impact on the results of the entire meta-analysis.

Language: Yes, the language is limited to English.

Country(ies) involved: China.

Keywords: repeated hepatectomy; radiofrequency ablation; recurrent liver cancer; meta-analysis.

Contributions of each author:

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