Recombinant human adenovirus p53 combined with transcatheter arterial chemoembolization for liver cancer: a meta-analysis

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Review question / Objective: To evaluate the clinical curative effects, survival and complications of Recombinant human adenovirus p53 combined with transcatheter arterial chemoembolization (TACE) for the treatment of liver cancer.

Condition being studied: We searched all the eligible studies of transcatheter arterial chemoembolization plus Recombinant human adenovirus p53 versus control group without Recombinant human adenovirus-p53 in the treatment of liver cancer, which were retrieved from CNKI Wanfang database, CBM, VIP, PubMed, EMBase, The China Library, Web of Science. Quality evaluation was by the Cochrane Collaboration’s tool for randomized controlled trials and methodological index (MINORS) for non-randomized trials. Meta-analysis was conducted by RevMan5.3 software after data extraction.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 September 2022 and was last updated on 30 September 2022 (registration number INPLASY202290127).

INTRODUCTION

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METHODS

Search strategy: Clinical studies of recombinant human adenovirus p53 combined with transcatheter arterial chemoembolization versus control group without recombinant human adenovirus p53 in the treatment of liver carcinoma were collected and retrieved from CNKI Wanfang database, CBM, VIP, PubMed, EMBase, Chrance of Library, Web of Science. The deadline is August 2022.

Participant or population: Patients diagnosed with liver cancer by histopathology and cytology.

Intervention: Recombinant human adenovirus p53 combined with transcatheter arterial chemoembolization.

Comparator: Transcatheter arterial chemoembolization.

Study designs to be included: Clinical trials (RCT or non-RCT).

Eligibility criteria: Diagnosed with liver cancer by histopathology and cytology.


Main outcome(s): Complete response rate (CR), objective response rate (ORR), Disease Control Rate (DCR), Survival rates, adverse reactions rate.

Additional outcome(s): Changes in AFP and Karuafsk score before and after treatment.

Data management: Noteexpress and excel.

Quality assessment / Risk of bias analysis: Two reviewers will independently assess the quality of the included studies. The Cochrane Collaboration's tool was for randomized controlled trials. Items will be evaluated in three categories: Low risk of bias, unclear bias and high risk of bias. The following characteristics will be evaluated: Random sequence generation (selection bias) Allocation concealment (selection bias) Blinding of participants and personnel (performance bias) Incomplete outcome data (attrition bias) Selective reporting (reporting bias) Other biases. Results from these questions will be graphed and assessed using Review Manager 5.3. The methodological index (MINORS) was for non-randomized trials. Mainly from the following aspects of evaluation: The purpose of the study is clearly given. Patient coherence was included. Expected data collection. The endpoints appropriately reflect the purpose of the study. Objective evaluation of end points. Adequate follow-up time. The loss to follow-up was less than 5%. Was the sample size estimated.

Strategy of data synthesis: All meta-analyses were performed using Cochrane RevMan version 5.3 and Stata (version 13). The results were reported as pooled odds ratios (ORs) with 95% confidence intervals (95% CIs). We used Cochran's Q test and I2 statistics to evaluate the heterogeneity of all the studies. If the heterogeneity was significant (p < 0.1, I2 > 50.0%), the random effects model was adopted; otherwise, the fixed effects model was used. Potential publication bias was assessed using funnel plots, Egger's test, and Begg's test. Results of this meta-analysis were presented by forest plots, and the p value less than 0.05 was considered significant. Publication bias was evaluated though funnel plots.

Subgroup analysis: When we analyze the results, we can decide whether to do a subgroup analysis based on that factor.

Sensitivity analysis: The sensitivity analysis was carried out by Stata software, and the sensitivity of the article was reflected by
the change of effect size after deleting one of the articles.

**Language restriction:** English and Chinese language.

**Country(ies) involved:** China.

**Keywords:** Recombinant human adenovirus-p53; liver cancer; transcatheter arterial chemoembolization.

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