INPLASY PROTOCOL

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None declared.

The efficacy and safety of Apatinib combined with TACE in the treatment of hepatocellular carcinoma: a meta-analysis

Gong, A[1]; Li, X[2].

Review question / Objective: **We aimed to conduct a systematic review and meta-analysis to evaluate the efficacy and safety of apatinib combined with transcatheter arterial chemoembolization (TACE) in the treatment of hepatocellular carcinoma.**
Condition being studied: **Randomized controlled trial (RCTs) on the application of apatinib and TACE in the treatment of hepatocellular carcinoma, to elucidate the role of apatinib and TACE use, and to provide evidence for the treatment of hepatocellular carcinoma.**
Information sources: **Cochrane Central Register of Controlled Trials (CENTRAL), Embase, PubMed, China Biomedical Literature Database, China Knowledge Network, Wanfang Database, and Weipu Chinese Science and Technology Journal Database.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 June 2021 and was last updated on 14 June 2021 (registration number INPLASY202160047).

INTRODUCTION

Review question / Objective: **We aimed to conduct a systematic review and meta-analysis to evaluate the efficacy and safety of apatinib combined with transcatheter arterial chemoembolization (TACE) in the treatment of hepatocellular carcinoma.**

Condition being studied: **Randomized controlled trial (RCTs) on the application of apatinib and TACE in the treatment of hepatocellular carcinoma, to elucidate the role of apatinib and TACE use, and to provide evidence for the treatment of hepatocellular carcinoma.**

METHODS

Search strategy: **("Neoplasms" OR "Hepatic" OR "Neoplasms" OR "Liver" OR "Liver Neoplasm" OR "Neoplasm" OR**

"Liver" OR "Hepatic Neoplasm" OR "Hepatocellular Cancers") AND ("Apatinib") AND ("Transcatheter arterial chemoembolization" OR "TACE" OR "Hepatic arterial chemoembolization").

Participant or population: Patients diagnosed with hepatocellular carcinoma by pathological examination.

Intervention: The experimental group was treated with apatinib in combination with TACE.

Comparator: The control group was treated with TACE.

Study designs to be included: RCTs.

Eligibility criteria: The type of study design was RCT, and the populations of the study are patients diagnosed with hepatocellular carcinoma by pathological examination. The control group was treated with TACE, and the experimental group was treated with apatinib in combination with TACE. The dosage and period of apatinib administration were not limited.

Information sources: Cochrane Central Register of Controlled Trials (CENTRAL), Embase, PubMed, China Biomedical Literature Database, China Knowledge Network, Wanfang Database, and Weipu Chinese Science and Technology Journal Database.

Main outcome(s): One-year, two-year survival and related treatment complications including incidence of hand-foot syndrome, proteinuria, myelosuppression and hypertension.

Quality assessment / Risk of bias analysis: Two researchers independently screened the literature and extracted data. If there was any disagreements during the process, discussions were conducted for consensus, and third-party opinions would be sought if necessary. We would contact the corresponding author for missing information. The included RCTs were analyzed according to the Bias Risk Evaluation Tool of Cochrane Handbook for Systematic Reviews. This tool evaluated seven specific domains, including: sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective outcome reporting and other issues. Each domain could be classified as low risk of bias, high risk of bias or unclear risk of bias based on related judgment criteria.

Strategy of data synthesis: The related data was extracted and sorted out, and the RevMan 5.3 software was used for Meta-analysis. We used $\chi 2$ test to analyze and evaluate the heterogeneity of the results. If there was no heterogeneity between the data of each group ($P>0.1$, $I2<50\%$), then we used the fixed effects model to analyze the data; If the heterogeneity was significant ($P \leq 0.1$, $I2 \geq 50\%$), we firstly identified the potential source of the heterogeneity, and after excluding the influence of obvious clinical heterogeneity, a random effects model was used for Meta-analysis. Publication bias were evaluated by using funnel plots, and asymmetry was assessed by conducting Egger regression test. For funnel plot asymmetry, $P < .1$ was considered as significantly different.

Subgroup analysis: Subgroup analysese were conducted based on the dose of Apatinib.

Sensitivity analysis: Sensitivity analyses, which investigate the influence of 1 study on the overall risk estimate by removing study one by one.

Language: English, Chinese.

Country(ies) involved: China.

Keywords: Apatinib; TACE; liver; cancer; treatment; effect; safety; review.

Contributions of each author:
Author 1 - Anan Gong.
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