INPLASY PROTOCOL

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None.

Efficacy and safety of Shen-Ling-Bai-Zhu-San combined with chemotherapy for lung cancer: A protocol for systematic review and meta-analysis

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Review question / Objective: **Efficacy and safety of Shen-Ling-Bai-Zhu-San combined with chemotherapy for lung cancer.**
Condition being studied: **Lung cancer (LC), with the highest incidence in malignant tumors in the world, and seriously affects people's lives and brings a great economic burden. The chemotherapy has become the main treatment for lung cancer. However, chemotherapy is often accompanied by adverse reactions such as bone marrow suppression, fatigue and diarrhea, which not only reduce the quality of life of patients, but also affect the course of treatment and even cause death. Based on this situation, there is an urgent to find a drug that can reduce the side effects of chemotherapy. At present, research reports have suggested that traditional Chinese medicine (TCM) as an adjuvant treatment for tumors can improve the efficacy of chemotherapy and reduce side effects, including Shen-Ling-Bai-zhu-San (SLBZS). SLBZS is an ancient TCM formula and described in the " Tai Ping Hui Min He Ji Ju Fang " in the Song Dynasty, which can treat cough, diarrhea, fatigue and many other diseases in China. In past studies, SLBZS has clinical effects on the treatment of LC, and possible mechanisms of action include activation of PI3K-Akt-mTOR Signaling Pathway and inhibition of tumor growth promoters and antiapoptotic proteins enhances proapoptotic proteins.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 9 January 2021 and was last updated on 9 January 2021 (registration number INPLASY202110025).

INTRODUCTION

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METHODS

Participant or population: Patients who are clearly diagnosed as lung cancer by pathological examination, and their pathological type and stage are not limited.

Intervention: The treatment group was treated with SLBZS (decoction, granule, tablet and injection) combined with chemotherapy.

Comparator: The control group received conventional chemotherapy.

Study designs to be included: (1) Type of studies. This review will include randomized controlled trials (RCTs), Whether using blinding. (2) Type of participants. Patients who are clearly diagnosed as lung cancer by pathological examination, and their pathological type and stage are not limited. (3) Types of interventions. The treatment group was treated with SLBZS (decoction, granule, tablet and injection) combined with chemotherapy. (4) Type of comparators. The control group received conventional chemotherapy.

Eligibility criteria: (1) Republished literature. (2) Non-RCT literature. (3) Research data is incomplete or full text is not available. (4) Study on patients with other primary tumors except lung cancer.

Information sources: The English databases include PubMed, Embase , Web of Science, Cochrane Library, and Chinese databases include China National Knowledge Infrastructure (CNKI), Wanfang Data, Chongqing VIP Information Resource Integration Service Platform (VIP), China Biomedical Literature (CBM) will be searched from the establishment of the database to January, 2021. The key words include “shenlingbaizhusan”, “lung cancer”, “primary bronchogenic carcinoma”, “carcinoma of the lungs” , “lung carcinoma” and “ random allocation ”. We will also retrieve ongoing or unpublished trials from the International Clinical Trial Registration Platform and Chinese Clinical Trial Registry Platform. PubMed's search strategy is shown in Table 1. These search terms will be accurately translated into other databases.

Main outcome(s): Treatment efficiency (WHO curative effect standard for solid tumors).

Additional outcome(s): Incidence of adverse reactions and improvement rate of quality of life.

Data management: Endnote20.0 software will be used by us to exclude duplicate studies. Two independent researchers will screen the literature after removing duplicates. Inconsistent opinions will be resolved through discussions with the third researcher. The selection process will be shown through the PRISMA flow chart . Two researchers independently extracted data based on pre-designed forms and cross-checked them. The extracted content includes the first author, title, publication time, age, disease type, sample size, intervention measures, outcome indicators and related data.

Quality assessment / Risk of bias analysis: Methodological quality for each included trial will be assessed using the tools of Cochrane Handbook for Systematic Reviews of Interventions[18]. The bias risk assessment category will include the following 7 areas: randomized sequence generation; allocation concealment; blinding of participants; blinding of outcome assessors; incomplete outcome data; selective outcome reporting; other bias. Two independent risk assessments of bias were conducted on the literature, and any differences would be discussed and resolved with the third researcher.Each assessment is labeled "high risk", "low risk" or “unclear risk”

Strategy of data synthesis: 1.Quantitative data synthesis. We will use Revman 5.3 software to conduct meta analysis. If it is continuous data, it will be calculated based on the mean difference (MD) of the 95% confidence interval(CI), and the dichotomous data will be calculated based on the risk ratio (RR) of the 95% CI. 2. Assessment of heterogeneity. Chi-square test and I2 test were used to test the heterogeneity of the included literature. When P>0.1and I2<50%, it indicates that there is no statistical heterogeneity between the studies; conversely, when P50%, it is considered that there is statistics heterogeneity between the studies. 3. Assessment of reporting biases. Less than 10 studies will not be analyzed for reporting bias. If more than 10 studies are included, the symmetry of the funnel chart will be used to detect potential reporting bias.

Subgroup analysis: Subgroup analysis will be conducted to explore the differences in the efficacy of SLBZS adjuvant treatment with different lung cancer types and chemotherapy regimens if possible.

Sensibility analysis: In order to evaluate the robustness of data analysis, sensitivity analysis will be performed.

Country(ies) involved: Chinese and English.

Keywords: chemotherapy, protocol, lung cancer, Shen-Ling-Bai-Zhu-San, systematic review.

Contributions of each author:

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