

INPLASY PROTOCOL

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None declared.

The Prognostic Value of Circulating Tumour DNA in Ovarian Cancer: A Meta-analysis

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Review question / Objective: Studies have shown that circulating tumor DNA (ctDNA) indicates a poor prognosis in ovarian cancer.

Condition being studied: Prognostic Value of Circulating Tumour DNA in Ovarian Cancer. Although there are many studies and reports on ctDNA, their conclusions are different, so meta-analysis is needed.

Information sources: A comprehensive literature search was performed using the PubMed, Embase, Web of Science and Cochrane Library databases.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 August 2021 and was last updated on 10 August 2021 (registration number INPLASY202180038).

INTRODUCTION

Review question / Objective: Studies have shown that circulating tumor DNA (ctDNA) indicates a poor prognosis in ovarian cancer.

Rationale: Ovarian cancer is one of the three major gynaecological malignancies. According to the latest statistics in China, approximately 51,000 women suffered from

ovarian cancer in 2014, and 23,000 died from the disease. Based on the data of Chinese cancer patients from 2003 to 2015, the 5-year survival rate of ovarian cancer patients (only 39%) has not changed significantly in the past 10 years, and the 5-year recurrence rate has reached 70%. Although surgery and chemotherapy for ovarian cancer are becoming increasingly advanced, there has been no significant improvement in the prognosis of ovarian

cancer patients, and there has been no major change in their prognosis. Precise treatment and full-course management are the most recent approaches to ovarian cancer. With the development of targeted chemotherapy and targeted drugs, genetic testing and sequencing technology have become the basis for precise treatment. Therefore, identifying biomarkers related to treatment response and prognosis may help improve the clinical prognosis of ovarian cancer patients.

Condition being studied: Prognostic Value of Circulating Tumour DNA in Ovarian Cancer. Although there are many studies and reports on ctDNA, their conclusions are different, so meta-analysis is needed.

METHODS

Search strategy: A comprehensive literature search was performed using the PubMed, Embase, Web of Science and Cochrane Library databases between the period of establishment and March, 2020.

Participant or population: Patients with epithelial ovarian cancer confirmed by histopathology.

Intervention: Clinical research on ctDNA detection and ovarian cancer prognosis, including overall survival (OS) and progression-free survival (PFS)

Comparator: The No. of ctDNA as the cut-off value.

Study designs to be included: Prospective and retrospective research.

Eligibility criteria: (1) Clinical research on ctDNA detection and ovarian cancer prognosis, including overall survival (OS) and progression-free survival (PFS); (2) patients with epithelial ovarian cancer confirmed by histopathology; (3) peripheral blood samples; and (4) prospective and retrospective research.

Information sources: A comprehensive literature search was performed using the

PubMed, Embase, Web of Science and Cochrane Library databases.

Main outcome(s): Overall survival (OS) and progression-free survival (PFS).

Quality assessment / Risk of bias analysis: Randomized controlled trials were evaluated via a modified JADAD scale. Retrospective studies were evaluated using the Newcastle-Ottawa Scale (NOS). Funnel plots and Begg's test were used to evaluate the publication bias of the included studies.

Strategy of data synthesis: The meta-analysis was performed using Stata 15.0. OS and PFS were used as the main evaluation indicators, and subgroup analysis was performed based on the source of ctDNA specimens, ctDNA detection methods, and FIGO staging.

Subgroup analysis: Subgroup analysis was performed based on the source of ctDNA specimens, ctDNA detection methods, and FIGO staging.

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.

Country(ies) involved: China.

Keywords: Circulating tumor DNA, ovarian cancer, prognosis, meta-analysis.

Contributions of each author:

Author 1 - Yuanyuan Lu - The author participated in the acquisition of the data, analyzed data, drafted and revised the manuscript.

Author 2 - Li Li - The author conceived the study and revised the manuscript.