INPLASY PROTOCOL

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None declared.

Comparison of PARP Inhibitors as Maintenance Therapy for Platinum-Sensitive Recurrent Ovarian Cancer: A Network Meta-Analysis

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Review question / Objective: **To evaluate the efficacy and safety of Poly (ADP-ribose) polymerase inhibitors (PARPis) monotherapy for platinum-sensitive patients with relapsed ovarian cancer, and to provide a more effective and safer treatment regimen for the continued treatment of recurrent ovarian cancer patients.**
Condition being studied: **We search the electronic database to find published randomized controlled trials (RCT) on the clinical efficacy and safety of PARPis maintenance treatment of recurrent ovarian cancer, the time limit is set from the date of establishment of the database to May 11, 2021. The primary endpoint is progression-free survival (PFS). The results of the study were stratified according to the three categories of BRCA mutation patients, HRD patients and the overall population, and the hazard ratio (HR) and 95% confidence interval (CI) of the corresponding stratification were calculated. The secondary outcomes are overall survival (OS), adverse events during maintenance treatment, and the resulting discontinuations. The results are expressed in risk ratio (RR) and its 95% CI. This study uses software R3.4.3 and JAGS4.3.0 for network meta-analysis (NMA). By constructing a Bayesian framework, the data of direct comparison and indirect comparison of different PARPis maintenance treatment plans were integrated to identify which PARPis has the best efficacy and safety.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 June 2021 and was last updated on 10 June 2021 (registration number INPLASY202160033).

INTRODUCTION

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METHODS

Participant or population: All patients were diagnosed with ovarian cancer, peritoneal cancer and fallopian tube cancer after pathological examination, and relapsed again after at least second-line platinum chemotherapy.

Intervention: The experimental group was treated with a single PARP inhibitor for maintenance treatment.

Comparator: The control group received the same dose of placebo.

Study designs to be included: Randomized Controlled Trial.

Eligibility criteria: (1) Research design: All studies are prospective Phase II or Phase III RCTs; (2) Research objects: Two groups of patients were diagnosed with recurrent ovarian cancer, peritoneal cancer and fallopian tube cancer after pathological examination; (3) Intervention : The intervention group was treated with PARPis maintenance treatment, and the control group was treated with a paired placebo; (4) Outcomes: The main outcome was progression-free survival (PFS), which was defined as the time from randomization to disease progression or death; secondary outcomes were overall survival (OS), adverse events during maintenance treatment and the consequent discontinuation of treatment.

Information sources: PubMed, EMBASE, Cochrane Library, Web of Science databases and the clinical trial registration website.

Main outcome(s): PFS, OS, adverse events and the consequent discontinuation of treatment.

Quality assessment / Risk of bias analysis: The quality of the literature can be evaluated independently according to the risk of bias assessment tool provided by the Cochrane Intervention System Evaluation Manual (version 5.3.0). The evaluation criteria and content are randomization method, allocation concealment, blinding method, data integrity of the study, whether to selectively report test results, and other biases. The assessment results are low risk of bias, high risk of bias, and unclear risk of bias. If there are disagreements and discrepancies, listen to the opinions of third parties when necessary.

Strategy of data synthesis: All analyses were performed by software R.3.6.1, If the heterogeneity was not significant ($p > 0.1$, $I2 < 50.0\%$), then the fixed-effect model can be performed, otherwise, the random effects model and the p value less than 0.05 was considered significant.

Subgroup analysis: When evaluating the efficacy of the treatment population, we will further divide the patients into BRCA mutation patients, HRD patients and the general population.

Sensitivity analysis: After excluding the research with abnormal results, perform the NMA again, compare the results of the two analyses, analyze whether the combined effect size is true and reliable, and discuss the degree of influence of the abnormal result study on the combined effect size.

Country(ies) involved: China.

Keywords: PARP inhibitor, ovarian cancer, maintenance therapy, network meta-analysis, progression-free survival, adverse reactions.

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