

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None declared.

## Risk of adverse drug reaction of hematological system associated with poly (ADP-ribose) polymerase (PARP) inhibitors in the treatment of ovarian cancer: a meta-analysis of published trials

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**Review question / Objective:** The objective of this study is to evaluate the risk of hematological adverse reactions to ovarian cancer with PARP inhibitors.

**Condition being studied:** Ovarian cancer is the gynecological malignancy with the highest mortality rate, and 70% of ovarian cancer patients have advanced clinical stage at the time of treatment. The preferred treatment mode for ovarian cancer is tumor cell reduction combined with platinum-based chemotherapy. Although most patients achieve clinical remission after initial treatment, 70% relapse within 3 years, with a 5-year survival rate of less than 50%. Ovarian cancer is the gynecological malignancy with the highest mortality rate, and 70% of ovarian cancer patients have advanced clinical stage at the time of treatment. Although most patients achieve clinical remission after initial treatment, 70% relapse within 3 years, with a 5-year survival rate of less than 50%. Ovarian cancer is the highest mortality of gynecological malignancies, 70%. The ovarian cancer patient was clinically advanced at the time of presentation. Although most patients achieve clinical remission with initial treatment. Still, 70% of patients relapse within 3 years, and the 5-year survival rate is inadequate 50%.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 November 2022 and was last updated on 26 November 2022 (registration number INPLASY2022110140).

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## INTRODUCTION

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cancer patients have advanced clinical stage at the time of treatment. The preferred treatment mode for ovarian cancer is tumor cell reduction combined with platinum-based chemotherapy. Although most patients achieve clinical remission after initial treatment, 70% relapse within 3 years, with a 5-year survival rate of less than 50%. Ovarian cancer is the gynecological malignancy with the highest mortality rate, and 70% of ovarian cancer patients have advanced clinical stage at the time of treatment. Although most patients achieve clinical remission after initial treatment, 70% relapse within 3 years, with a 5-year survival rate of less than 50%. Ovarian cancer is the highest mortality of gynecological malignancies, 70%. The ovarian cancer patient was clinically advanced at the time of presentation. Although most patients achieve clinical remission with initial treatment. Still, 70% of patients relapse within 3 years, and the 5-year survival rate is inadequate 50%.

## METHODS

**Participant or population:** The study included ovarian cancer patients  $\geq 18$  years of age who had received platinum-based or endocrine therapy and were receiving chemotherapy (a platinum-based chemotherapy regimen); The overall functional status score of the American Eastern Oncology Consortium (ECOG) was 0 to 2; Hematopoietic function of organs and bone marrow is normal.

**Intervention:** Ovarian cancer patients in the experimental group were treated with PARP inhibitors alone or PARP inhibitors combined with chemotherapy.

**Comparator:** Ovarian cancer patients in the control group received chemotherapy alone or placebo or chemotherapy combined with placebo.

**Study designs to be included:** Randomized controlled trials (RCTs) will be included.

**Eligibility criteria:** Exclusion criteria: 1 review, conference papers; 2 Basic

research (including animal research); 3 Case reports and republished literature; 4 Studies without any of the above outcome indicators or the full text of the literature could not be obtained.

**Information sources:** The English databases included PubMed and Cochrane Library. The Chinese databases included Wan Fang, VIP, CNKI, and CBM.

**Main outcome(s):** The primary outcome measurements included: Anemia; Neutropenia; Leukopenia; Thrombocytopenia.

**Quality assessment / Risk of bias analysis:** In this study, two researchers will read the title and abstract of the literature according to the inclusion and exclusion criteria, eliminate the literature that is obviously inconsistent with the inclusion criteria, further read the full text and eliminate the literature that is not standard in research design, unreasonable treatment plan, outcome index is not related to this study, and the original data cannot be extracted. After extraction, cross-check will be carried out. In case of any dispute, it shall be decided through discussion with a third party. For data that cannot be determined, collect as much information as possible after contacting the first or corresponding author. The extracted data included the first author, year of publication, number of patients, age, clinical stage, tumor type, intervention measures, outcome indicators, etc.

**Strategy of data synthesis:** The statistical analysis was performed using the statistical software Review Manager 5.3. Count data will be presented as relative risk (RR) and 95% confidence interval (CI). Q test and  $I^2$  test will be used for heterogeneity analysis. If there is no statistical heterogeneity among the studies ( $P > 0.10$ ,  $I^2 < 50\%$ ), the fixed-effect model will be used for analysis. Otherwise, the random effects model is used for analysis. Sensitivity analysis will be used to evaluate the stability of the results and inverted funnel plot will be used to evaluate the

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publication bias.  $P < 0.05$  will be considered statistically significant.

**Subgroup analysis:** Two subgroup analyses will be undertaken: The first is to assess whether different age groups have different adverse effects on the blood system; The second is to investigate whether different pathological stages of ovarian cancer have different adverse effects on the blood system.

**Sensitivity analysis:** When heterogeneity is significant, a sensitivity test will be performed. In the sensitivity test, studies will be ruled out one by one. If the heterogeneity result is not changed, the result will be stable. If the result is changed, the study identified could greatly impact the result and it will be closely studied to further determine the source of heterogeneity.

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

**Keywords:** PARP inhibitors, ovarian cancer, hematologic system, adverse drug reaction, meta-analysis.

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