INPLASY PROTOCOL

To cite: Shao et al. A meta-analysis of efficacy of PARP inhibitors versus conventional therapy or placebo in various cancers patients. Inplasy protocol 202060013. doi: 10.37766/inplasy2020.6.0013

Received: 03 June 2020

Published: 03 June 2020

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Support: **NSFC (Grant number: 81772764)**

Review Stage at time of this submission: **Formal screening of search results against eligibility criteria.**

Conflicts of interest:
There are no competing interests associated with the meta-analysis.

A meta-analysis of efficacy of PARP inhibitors versus conventional therapy or placebo in various cancers patients

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Review question / Objective: **The aims of this meta-analysis randomised controlled trial is to evaluate the efficacy of PARPis in various cancers, and the efficacy of PARPis in each cancer, efficacy of each PARPi, the difference between the use of PARPis in relapse and newly diagnosis of cancer.**
Condition being studied: **Cancer is the leading cause of death in the world and become major public health problem that persists worldwide for a long time. Based on the data of human epidemiology, every day approximately 4950 people die of cancer in USA[1], and even worse is the fact that there are over 7500 people die of cancer in China[2]. Cancer still faces the challenge of high recurrence rate after surgery and conventional chemotherapy which cannot meet the medical requirements of cancer patients for high survival at present, so more and more effective treatment schemes are needed. Molecular targeted therapy has a great potential of scientific research and a revolutionary breakthrough. An increasing number of clinical studies has demonstrated that targeted therapy plays an indispensable role in anti-tumor. Conveniently, some target therapy as oral drugs control the progression or death of cancer just like taking pills to treat hypertensive disorders and some chronic diseases. PARP inhibitor (PARPi), a novel cancer therapy targeting poly ADP ribose polymerase achieves noteworthy therapeutic effects of cancer.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 June 2020 and was last updated on 03 June 2020 (registration number INPLASY202060013).

INTRODUCTION

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difference between the use of PARPis in relapse and newly diagnosis of cancer.

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METHODS

Search strategy: We searched Web of Science, PubMed, Embase, Cochrane from inception to May 2020 with no language restrictions. The search terms were the "parp OR poly adp ribose polymerase OR poly adenosine diphosphate ribose polymerase OR olaparib OR veliparib OR iniparib OR rucaparib OR niraparib OR talazoparib".

Participant or population: Patients with various cancers, irrespective of cancer type, stage or grade, surgery, recurrence, drug resistance, histology and homologous recombination defects.

Intervention: Poly ADP ribose polymerase (PARP) inhibitors (PARPis).

Comparator: Conventional drug or placebo.

Study designs to be included: Randomised controlled , phase II or III trials.

Eligibility criteria: The progression free survival and overall survival of patients with various cancers, irrespective of cancer type, stage or grade, surgery, recurrence, drug resistance, histology and homologous recombination defects, which treat with poly ADP ribose polymerase (PARP) inhibitors.

Information sources: Web of Science, PubMed, Embase, Cochrane from inception to May 2020.

Main outcome(s): Progression free survival (PFS) and/or overall survival (OS).

Additional outcome(s): Median progression free survival in patients with recurrent ovarian cancer or newly diagnosed advanced ovarian cancer.

Quality assessment / Risk of bias analysis: Cochrane Risk of Bias Tool: random sequence generation; allocation concealment; blinding of participants and personnel to the study protocol; blinding of outcome assessment; incomplete outcome data; and selective reporting.

Strategy of data synthesis: The random-effect model will be used to increase reliability because of the obvious heterogeneity attributed to differences by cancer type. Cochrane's Q-test and I^2 statistics will be used to assess heterogeneity across the different studies.Potential publication bias will be assessed by the Begg's and Egger's test.

Subgroup analysis: The subgroups including BRCA1/2 mutation cancers; BRCA2 mutation cancers ; BRCA2 mutation cancers; each cancer; each PARPi.

Sensibility analysis: Measures of effects include Hazard ratios (HRs) and 95% confidence intervals (95% CIs); The Stata 15.1 Software was used to perform the sensitivity analysis.

Language: No language restrictions.

Country(ies) involved: China.

Keywords: PARP inhibitor; various cancers; therapy.

Dissemination plans: To provide a clinical reference by comprehensively evaluating the efficacy of PARPis in patients with various cancers.

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