INPLASY PROTOCOL

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None declared.

Efficacy of hyperthermic intraperitoneal chemotherapy plus cytoreductive surgery for advanced or recurrent ovarian cancer: a systematic evaluation and Meta-analysis

Li, H[1]; Liao, LJ[2].

Review question / Objective: **What kind of examination or treatment method are you planning to perform for the patientHoe.**
Eligibility criteria: **Inclusion criteria: 1) participants with a pathological diagnosis of ovarian cancer; 2) study design was randomized controlled, case-control, or retrospective study matched for basic information; 3) All patients were treated with CRS; 4) both participants receiving HIPEC and those not receiving HIPEC were included; (5) Clinical outcome including at least one of DFS, OS, and hazard ratio (HR) and 95% confidence interval (CI) were also calculated.Exclusion criteria: animal studies, reviews, case reports, conference abstracts, and unavailability of the specified data extraction.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 June 2023 and was last updated on 06 June 2023 (registration number INPLASY202360020).

INTRODUCTION

Review question / Objective: **What kind of examination or treatment method are you planning to perform for the patientHoe.**

Condition being studied: **Ovarian cancer is a common gynecologic malignancy, with about 200,000 new cases and 125,000 deaths per year worldwide, ranking first among tumors in terms of mortality. Ovarian cancer is usually diagnosed at an advanced stage due to non-specific early symptoms and absence of reliable early screening methods1.**

METHODS

Search strategy: An electronic search of databases including PubMed, Embase, Cochrane, Medline, and Web of Science from inception to April 1, 2023 was performed to collect controlled studies on HIPEC combined with CRS administered for advanced ovarian cancer. The search was conducted using Mesh phrases such as "hyperthermic intraperitoneal chemotherapy", "HIPEC", "ovarian tumor", and "ovarian cancer". Taking the PubMed database search as an example.

Participant or population: 1) participants with a pathological diagnosis of ovarian cancer.

Intervention: Inclusion criteria: 1) participants with a pathological diagnosis of ovarian cancer; 2) study design was randomized controlled, case-control, or retrospective study matched for basic information; 3) All patients were treated with CRS; 4) both participants receiving HIPEC and those not receiving HIPEC were included; (5) Clinical outcome including at least one of DFS, OS, and hazard ratio (HR) and 95% confidence interval (CI) were also calculated.Exclusion criteria: animal studies, reviews, case reports, conference abstracts, and unavailability of the specified data extraction.

Comparator: 3) All patients were treated with CRS; 4) both participants receiving HIPEC and those not receiving HIPEC were included.

Study designs to be included: 2) study design was randomized controlled, case-control, or retrospective study matched for basic information.

Eligibility criteria: Inclusion criteria: 1) participants with a pathological diagnosis of ovarian cancer; 2) study design was randomized controlled, case-control, or retrospective study matched for basic information; 3) All patients were treated with CRS; 4) both participants receiving HIPEC and those not receiving HIPEC were included; (5) Clinical outcome including at least one of DFS, OS, and hazard ratio (HR) and 95% confidence interval (CI) were also calculated.Exclusion criteria: animal studies, reviews, case reports, conference abstracts, and unavailability of the specified data extraction.

Information sources: An electronic search of databases including PubMed, Embase, Cochrane, Medline, and Web of Science from inception to April 1, 2023 was performed to collect controlled studies on HIPEC combined with CRS administered for advanced ovarian cancer. The search was conducted using Mesh phrases such as "hyperthermic intraperitoneal chemotherapy", "HIPEC", "ovarian tumor", and "ovarian cancer". Taking the PubMed database search as an example.

Main outcome(s): (5) Clinical outcome including at least one of DFS, OS, and hazard ratio (HR) and 95% confidence interval (CI) were also calculated.

Quality assessment / Risk of bias analysis: The R language SURVIVAL package and meta-package were used to analyze the data and plot the relevant graphics.

Strategy of data synthesis: HR and OR with their 95% CI were used to assess survival data and categorical data outcomes. The I2 test was used to analyze the heterogeneity of the included literature, where I2<50% suggested the absence of significant heterogeneity between studies, and a fixed-effects model was used for analysis; I2≥50% suggested the existence of significant heterogeneity between studies, and subgroup analysis was performed. If I2 remained ≥ 50%, after subgroup analysis, a random effects model was used for analysis. Publication bias was assessed for each combined study group using funnel plots and further assessed using Egger's test.

Subgroup analysis: f the 12 included RCTs, 7 mentioned "randomized grouping" with a low risk and 4 were retrospective analyses but were matched for basic information with an unclear risk. No concealment of random assignment was mentioned in all

included studies. Confined to informed consent for treatment, only data analysts were blinded. Six pieces of literature described participants withdrawal.

Sensitivity analysis: A total of 8 of the 12 included studies reported OS outcomes, and the heterogeneity analysis showed no significant heterogeneity (I2=47%), with a pooled HR of 0.63 (95% CI: 0.52, 0.77) when analyzed using a fixed-effects model. The HR was 0.67 (95% CI: 0.54, 0.83) for the treatment-naïve subgroup and 0.47 (95% CI: 0.29, 0.77) for the secondary cytor-eduction subgroup

Country(ies) involved: China.

Keywords: Ovarian cancer; Cytoreductive surgery; Hyperthermic intraperitoneal chemotherapy; Disease-free survival; Overall survival.

Contributions of each author:
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