

INPLASY

Effects of different endometrial preparation protocols on pregnancy outcomes in women with polycystic ovarian syndrome undergoing frozen embryo transfer: A network meta-analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 May 2024 and was last updated on 01 May 2024.

INTRODUCTION

Review question / Objective This study aims to investigate the impact of various endometrial preparation protocols on pregnancy outcomes in women with polycystic ovarian syndrome (PCOS) undergoing frozen embryo transfer (FET).

Condition being studied As known, women with PCOS tend to have a high response to ovarian stimulation (OS) during IVF-ET, supra-physiological estradiol exposure after OS may lead to a higher risk of ovarian hyperstimulation syndrome (OHSS) than with other causes of infertility patients undergoing IVF-ET. Freeze-all strategy with the frozen embryo transfer (FET) was used to reduce the risk of OHSS in patients with PCOS. Women with PCOS who usually high response to OS have a better live birth rate after elective FET than fresh

ET. There are several endometrial preparation protocols for embryo implantation in women with PCOS undergoing FET cycles, including the natural cycle (NC) protocol, the ovarian stimulation (OS) protocol, the hormone replacement treatment (HRT) protocol and HRT with gonadotropin-releasing hormone agonist pretreatment (GnRH-a+HRT) protocol. Since PCOS is associated with ovulation dysfunction and irregular menstrual cycles, HRT protocol is the most frequently used protocol. In recent years, some studies have compared different endometrial preparation protocols in PCOS women undergoing FET. As these findings are inconsistent, therefore, the aim of this network meta-analysis (NMA) was to determine the effect of different endometrial preparation protocols on pregnancy outcomes in PCOS women undergoing FET. In recent years, a number of studies have compared various endometrial preparation protocols in women with PCOS undergoing FET.

Given the inconsistency of these findings, the purpose of this NMA is to ascertain the impact of different endometrial preparation protocols on pregnancy outcomes in PCOS women undergoing FET.

METHODS

Search strategy We have conducted a comprehensive search of the following electronic databases: PubMed, EMBASE, and the Cochrane Library, to identify relevant studies. The main search strategy includes a combination of terms and phrases to capture all relevant literature: ("polycystic ovary syndrome" [MeSH Terms] OR ("polycystic" [All Fields] AND "ovary" [All Fields] AND "syndrome" [All Fields]) OR "polycystic ovary syndrome" [All Fields] OR ("polycystic" [All Fields] AND "ovarian" [All Fields] AND "syndrome" [All Fields]) OR "polycystic ovarian syndrome" [All Fields] AND ("embryo transfer" [MeSH Terms] OR ("embryo" [All Fields] AND "transfer" [All Fields]) OR "embryo transfer" [All Fields]).

Participant or population Diagnosis of PCOS according to Rotterdam criteria.

Intervention Patients underwent GnRH-a+HRT, Letrozole(LE) stimulation, HMG/FSH stimulation and NC.

Comparator Patients underwent HRT as control group.

Study designs to be included RCTs and observational studies.

Eligibility criteria Diagnosis of PCOS according to Rotterdam criteria, Undergoing FET.

Information sources PubMed, EMBASE, and the Cochrane Library.

Main outcome(s) Clinical pregnancy rate.

Quality assessment / Risk of bias analysis The risk of bias in the studies was assessed by two independent reviewers. For the RCTs, the Cochrane Risk of Bias tool was utilized to evaluate the quality. This tool assesses various risk of bias items, including random sequence generation, allocation concealment, blinding of participants and outcome assessors, incomplete outcome data, and selective reporting. Based on these criteria, RCTs were categorized as having a low, high, or unclear risk of bias.

For non-randomized controlled trials, the quality was assessed using the Newcastle-Ottawa Scale

(NOS), a collaborative effort between the Universities of Newcastle, Australia, and Ottawa, Canada. The NOS evaluates studies across three domains: selection (with a score range of 0 to 4), comparability (with a score range of 0 to 2), and outcome (with a score range of 0 to 3).

Strategy of data synthesis All analyses were conducted using Stata statistical software (Version 14.0, Stata Corporation).

Subgroup analysis None.

Sensitivity analysis None.

Country(ies) involved China.

Keywords polycystic ovarian syndrome; frozen embryo transfer; endometrial preparation; pregnancy outcome; network meta-analysis.

Contributions of each author

Author 1 - meifang zeng - Author 1 drafted the manuscript.

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