

INPLASY

The Impact of Endometrial Polyps on Infertility and Assisted Reproductive Technology Outcomes. Systematic Review and Meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - Personal no institutional.

Review Stage at time of this submission - Completed but not published.

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 25 February 2025 and was last updated on 25 February 2025.

INTRODUCTION

Review question / Objective Is the presence of polyps reducing the embryos implantation and the practice of removing endometrial polyps in women experiencing subfertility is effectiveness to enhances pregnancy chances?

Rationale Endometrial polyps (EPs) have long been associated with impaired fertility, yet their exact role in reducing implantation rates and pregnancy success remains a subject of debate. These localized endometrial overgrowths can alter the uterine microenvironment, and interfere with embryo implantation- . While hysteroscopic polypectomy is commonly recommended before initiating assisted reproductive treatments (ART), robust evidence supporting its routine use remains limited.

Condition being studied Women experiencing subfertility for over 12 months, diagnosed with at least one endometrial polyp via transvaginal ultrasound, hysterosalpingography, saline infusion sonohysterography, or hysteroscopy. Interventions: Comparison of surgical removal of endometrial polyps (hysteroscopic polypectomy) versus expectant management (no surgical intervention). Main Outcome Measures. Primary Outcomes: Live birth rates. Secondary Outcomes: Clinical pregnancy rates (confirmed by ultrasound). Ongoing pregnancy rates.

METHODS

Search strategy Systematic review and meta-analysis conducted following PRISMA guidelines, using ROBINS-I and GRADE methodologies to assess risk of bias and evidence quality. Setting: A comprehensive search of PubMed, Embase, and Cochrane databases was performed for studies published up to February 13, 2025.

Participant or population Women experiencing subfertility for over 12 months, diagnosed with at least one endometrial polyp via transvaginal ultrasound, hysterosalpingography, saline infusion sonohysterography, or hysteroscopy.

Intervention Comparison of surgical removal of endometrial polyps (hysteroscopic polypectomy) versus expectant management (no surgical intervention).

Comparator Live birth rates. and Clinical pregnancy rates (confirmed by ultrasound). Ongoing pregnancy rates. In women with and without EP with and without EP removal.

Study designs to be included RCT and Observational.

Eligibility criteria Study Type: Randomized controlled trials (RCTs) where endometrial polyps were surgically removed to address subfertility were considered. Trials had to use clear or well-described randomization methods. Observational studies well designed and conducted were considered after Robins I screening selections for low and moderate risk of biases. Grade evaluation helps in selecting studies to submit for meta-analysis.

Participants: Women experiencing subfertility for over 12 months with at least one endometrial polyp, diagnosed through: Transvaginal ultrasound, Hysterosalpingography Saline infusion sonohysterography Hysteroscopy
Interventions: Treatment Group: Surgical removal of endometrial polyps using any technique. Control Group: Expectant (non-surgical) management.

Information sources A comprehensive search of PubMed, Embase, and Cochrane databases was performed for studies published up to February 13, 2025.

Main outcome(s) Live birth rates. and Clinical pregnancy rates (confirmed by ultrasound). Ongoing pregnancy rates.

Quality assessment / Risk of bias analysis ROBINS-I, RoB 2 (Cochrane Tool), GRADE.

Strategy of data synthesis Prisma selection , meta-analysis with risk of bias examination, grade evaluation and forest plot visually represents the odds ratios (ORs) with 95% confidence intervals (CIs).

Subgroup analysis Effects of EP on natural conception and ART.

Sensitivity analysis Meta-analysis with risk of bias examination, grade evaluation and forest plot visually represents the odds ratios (ORs) with 95% confidence intervals (CIs).

Language restriction English.

Country(ies) involved Italy, Switzerland.

Keywords Endometrial polyps, infertility, hysteroscopy, IVF, ART, systematic review, meta-analysis, ROBINS-I, RoB 2 (Cochrane Tool), GRADE.

Contributions of each author

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