

# INPLASY PROTOCOL

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submission:** Data analysis.

**Conflicts of interest:**  
None declared.

## INTRODUCTION

**Review question / Objective:** To evaluate natural pregnancy outcomes of hydrosalpinx and different grades of hydrosalpinx, which perform reproductive surgery.

## Which patients with hydrosalpinges will benefit more from reproductive surgery to improve natural pregnancy outcomes?-System evaluation and Meta-analysis

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**Review question / Objective:** To evaluate natural pregnancy outcomes of hydrosalpinx and different grades of hydrosalpinx, which perform reproductive surgery.

**Information sources:** Electronic searches of Pubmed, Embase, Cochrane Library, Web of science, and Clinical Trails. All literature on hydrosalpinx and reproductive surgery were retrieved. The Mesh subject words and free words are: "Salpingitis, Salpingitides, hydrosalpinx\*, distal tubal occlusion, pelvic inflammatory disease, Reproductive surgical procedure, tubal surgery, microsurg \*, laparoscopic surgery ,salpingostomy , salpingectomy". References of the original and reviewed articles were manually searched to include the relevant literature.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 September 2022 and was last updated on 22 September 2022 (registration number INPLASY202290105).

**Condition being studied:** Infertility caused by tubal factors accounts for about 25% to 40% of all women. The most common tubal disease occurs in the distal region (about 80%), presenting with hydrosalpinx, whereas 10 – 25% of the disease occurs in the proximal. With the rapid development of IVF (in vitro fertilization, IVF), IVF seems to

have become synonymous with infertility treatment. And a major drawback of this procedure is that patients with bilateral disease will rely on assisted reproduction to achieve future pregnancies. A systematic review of 22 studies (including 2,810 patients) showed that, the natural pregnancy rate was 27% , however, the risk of ectopic pregnancy was 10%, published from 1972 to 2014, including laparotomy and laparoscopy. It suggest that tubal surgery is an effective alternative to hydrosalpinx treatment. However, further studies are needed to determine which subpopulations will benefit most from tubal repair surgery. In view of this problem, this study collected observational studies published since 2000, and the study subjects were patients who plan to conceive naturally. The interventions were laparoscopic Salpingostomy, plastic surgery to observe their spontaneous pregnancy rate (intrauterine pregnancy rate, ectopic pregnancy rate). And according to the severity of hydrosalpinx, the natural conception rate and ectopic pregnancy rate were counted respectively.

## METHODS

**Participant or population:** The study subjects were patients with hydrosalpinx who were to be conceived naturally.

**Intervention:** The intervention was reproductive surgery to preserve natural reproductive function.

**Comparator:** None.

**Study designs to be included:** This study has collected the observational studies published since 2000, except for the reviews, case reports, and conference abstracts.

**Eligibility criteria:** This study has collected the observational studies published since 2000, except for the reviews, case reports, and conference abstracts. The study subjects were patients with hydrosalpinx who were to be conceived naturally. The intervention was reproductive surgery to preserve natural reproductive function, and

the observed outcome indicators were natural pregnancy rate and ectopic pregnancy rate. Studies of non-stagnant tubal disease, bilateral salpingectomy or obstruction operators, and intended assisted reproductive conception were excluded.

**Information sources:** Electronic searches of Pubmed, Embase, Cochrane Library, Web of science, and Clinical Trails. All literature on hydrosalpinx and reproductive surgery were retrieved. The Mesh subject words and free words are: "Salpingitis, Salpingitides, hydrosalpinx\*, distal tubal occlusion, pelvic inflammatory disease, Reproductive surgical procedure, tubal surgery, microsurg \*, laparoscopic surgery ,salpingostomy , salpingectomy". References of the original and reviewed articles were manually searched to include the relevant literature.

**Main outcome(s):** The observed outcome indicators were natural pregnancy rate and ectopic pregnancy rate of hydrosalpinx and different grades of hydrosalpinx.

**Quality assessment / Risk of bias analysis:** Use the NOS scale for observational studies. The quality evaluation scale includes eight items in three categories. In the "select" and "exposure" categories, the quality evaluator gave at most one star per item, except for two stars for the comparative items. Total score 9 points. Each literature entry was scored separately. Scores ranged from 0 to 9 points. For each study, the evaluation was performed separately by two authors, and the incongruents were determined by the third author.

**Strategy of data synthesis:** Clinical pregnancy,ectopic pregnancy were extracted from each study.The log of the ratio and its corresponding standard error for each study was computed. Statistical analysis should have RevMan5.3 software. The Meta-analysis was performed by inverse-variance weighting. Forest maps were made for each study,and use I2 Statistical methods to assess the statistical heterogeneity.

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**Subgroup analysis:** According to the severity of hydrosalpinx, we classified it as mild, moderate, or moderate. The natural conception rate and ectopic pregnancy rate of subgroup were counted respectively.

**Sensitivity analysis:** Forest maps were made for each study and use I<sup>2</sup> Statistical methods to assess the statistical heterogeneity. If I<sup>2</sup> 50%, with high heterogeneity, were merged using random effect models.

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

**Keywords:** hydrosalpinx, reproductive surgery, salpingostomy, salpingoplasty, natural pregnancy, ectopic pregnancy, Meta-analysis.

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