Pregnancy rates after in-vitro fertilization in cases of tubal infertility with and without hydrosalpinx: a meta-analysis of published comparative studies
Camus E, Poncelet C, Goffinet F, Wainer B, Merlet F, Nisand I, Philippe H J

Authors' objectives
To evaluate the differences in pregnancy rates after in vitro fertilisation (IVF) in tubal fertility with and without hydrosalpinx.

Searching
MEDLINE and the Cochrane Database of Systematic Reviews were searched. No search terms were provided. The reference list of the pertinent articles were also reviewed.

Study selection
Study designs of evaluations included in the review
Any comparative study, where patients with hydrosalpinx were categorised separately, was included in the review. Before and after studies were excluded.

Specific interventions included in the review
IVF (with the inclusion of frozen embryos).

Participants included in the review
Women with tubal infertility. Women with uni- or bilateral hydrosalpinx are compared to those without hydrosalpinx. The diagnosis of hydrosalpinx was made either by ultrasound alone, or by hysterosalpingography and/or laparoscopy, or by any one of these three examinations. Patients treated surgically for hydrosalpinx were excluded. The participants included in the review were mainly greater than 40 years of age (age was not incited in one study and one study included patients who were 24 to 44 years of age).

Outcomes assessed in the review
Pregnancy rate (number of pregnancies achieved per number of embryos transferred); implantation rate (number of developing gestational sacs observed upon ultrasound divided by the number of embryos transferred); delivery rate (number of live deliveries per transfer); early pregnancy loss, which included ectopic pregnancies, biochemical pregnancies, and early spontaneous abortion.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
No information was presented on the methods used to carry out data extraction. The authors’ of included studies were contacted for any missing information.

Methods of synthesis
How were the studies combined?
The Mantel-Haenszel statistical method was used in the meta-analysis. The results were presented as odds ratios (ORs)
with their 95% confidence intervals (CIs).

**How were differences between studies investigated?**
The DerSimonian and Laird chi-squared test for homogeneity was conducted.

**Results of the review**
Nine published retrospective comparative series and five series published as abstracts. In all, these studies involved 5592 patients (1004 with hydrosalpinx and 4588 with tubal infertility without hydrosalpinx).

Only one study distinguished between unilateral and bilateral hydrosalpinx in its results. Therefore, information from both unilateral and bilateral groups were consolidated.

Pregnancy rates were significantly lower in the presence of hydrosalpinx: 31.2% for the tubal sterility group without hydrosalpinx and 19.7% for the group with hydrosalpinx (OR 0.64, 95% CI: 0.56 to 0.74). The results were homogeneous, with the same trend in all studies. The implantation rate and the delivery rate per transfer in the hydrosalpinx group were only slightly more than half those of the non-hydrosalpinx group (implantation: 8.5 and 13.7%, respectively OR 0.63, 95% CI 0.55 to 0.72; delivery: 13.4 and 23.4% OR 0.58, 95% CI 0.49 to 0.69). The incidence of early pregnancy loss was also higher in the hydrosalpinx group (43.7%) than in the control group (31.1%) (OR 1.78, 95% CI 1.31 to 2.41).

The chi-squared test for heterogeneity was significant for the pregnancy rate (29.2 with 14 degrees of freedom (df)) and the delivery rate (23.13 with 13 df).

**Authors' conclusions**
This meta-analysis, although based on the results of retrospective studies, demonstrates that hydrosalpinx present during IVF-embryo transfer has negative consequences on the pregnancy rate, the implementation rate, the live delivery rate per transfer, and the rate of early pregnancy loss. It would be premature, however, to conclude that routine salpingectomy should be performed on all hydrosalpinges, before results are available from the randomised, prospective studies that are currently in progress.

**CRD commentary**
The review included a clearly stated objective and some attempt was made to identify unpublished data. Only two electronic databases were searched and no information is presented on the search strategy used. This means that some important information may have been missed. The authors do not specify clear a priori inclusion/ exclusion criteria, however, information is presented as to why some studies were excluded. There was no recorded structured validity assessment of included studies (such as the use of a validity checklist) although the overall methodological quality of the review and potential bias was discussed. The chi-squared test for heterogeneity was found to be significant for two outcome measures yet pooled results were still presented.

The authors' conclusions seem to follow the results but should be treated with caution in view of the above limitations.

**Implications of the review for practice and research**
**Practice:** The authors do not state any further implications for practice.

**Research:** The authors note that only a randomised study comparing a group of patients with hydrosalpinx to a group that has undergone salpingectomy or the placement of proximal tubal clip can definitively answer the question about the benefit of surgical treatment.

**Bibliographic details**

PubMedID
10325271

Original Paper URL
http://humrep.oxfordjournals.org/cgi/reprint/14/5/1243

Indexing Status
Subject indexing assigned by NLM

MeSH
Body Fluids; Fallopian Tube Diseases /therapy; Female; Fertilization in Vitro; Humans; Infertility, Female /therapy; Pregnancy; Pregnancy Outcome; Pregnancy Rate; Retrospective Studies

AccessionNumber
11999001124

Date bibliographic record published
30/09/2000

Date abstract record published
30/09/2000

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.