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[Intervention Review]

Surgical treatment for tubal disease in women due to undergo in vitro fertilisation

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ABSTRACT

Background

Tubal disease, and particularly hydrosalpinx, has a detrimental effect on the outcome of in-vitro fertilisation (IVF). Performing a surgical intervention such as salpingectomy, tubal occlusion, aspiration of the hydrosalpinx fluid, or salpingostomy, prior to the IVF procedure in women with hydrosalpinges is thought improve the likelihood of successful outcome.

Objectives

To assess and compare the value of surgical treatments for tubal disease prior to IVF.

Search methods

Trials were sought in the Cochrane Menstrual Disorders and Subfertility Group trials register, the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, PSYCHMED and in Conference proceedings and reference lists up until October 28 2009. Researchers in the field were contacted to reveal unpublished studies.

Selection criteria

All trials comparing a surgical treatment for tubal disease with a control group generated by randomisation were considered for inclusion in the review.

Data collection and analysis

Two reviewers independently assessed trial quality and extracted data. The studied outcomes were live birth, ongoing pregnancy, viable-, clinical- and biochemical pregnancy, ectopic pregnancy, miscarriage, multiple pregnancy, ovarian function and complications.

Main results

Five randomised controlled trials involving 646 women were included in this review. Four studies assessed salpingectomy versus no treatment, two of which also included a tubal occlusion arm, and one trial assessed aspiration versus no treatment. No trials reported on the primary outcome: live birth. The odds of ongoing pregnancy (Peto OR 2.14, 95%CI 1.23 to 3.73) and of clinical pregnancy (Peto OR 2.31, 95%CI 1.48 to 3.62) however were increased with laparoscopic salpingectomy for hydrosalpinges prior to IVF. Laparoscopic occlusion of the fallopian tube versus no intervention did not increase the odds of ongoing pregnancy significantly (Peto OR 7.24, 95%CI 0.87 to 59.57) but the odds of clinical pregnancy (Peto OR 4.66, 95%CI 2.47 to 10.01) had sufficient power to show a significant increase. Comparison of tubal occlusion to salpingectomy did not show a significant advantage of either surgical procedure in terms of ongoing pregnancy (Peto OR:

1.65, 95%CI 0.74, 3.71) or clinical pregnancy (Peto OR 1.28, 95%CI 0.76 to 2.14). One RCT reported efficacy of ultrasound guided aspiration, however the odds of pregnancy did not show a significant increase in the odds of clinical pregnancy (Peto OR 1.97, 95%CI 0.62 to 6.29), and confidence intervals were wide. Throughout the different comparisons no significant differences were seen in adverse effects of surgical treatments.

Authors' conclusions

Surgical treatment should be considered for all women with hydrosalpinges prior to IVF treatment. Previous evidence supported only unilateral salpingectomy for a unilateral hydrosalpinx (bilateral salpingectomy for bilateral hydrosalpinges). This review now provides evidence that laparoscopic tubal occlusion is an alternative to laparoscopic salpingectomy in improving IVF pregnancy rates in women with hydrosalpinges. Further research is required to assess the value of aspiration of hydrosalpinges prior to or during IVF procedures and also the value of tubal restorative surgery as an alternative (or as a preliminary) to IVF.

PLAIN LANGUAGE SUMMARY

Surgical treatment for tubal disease in women due to undergo in vitro fertilisation

Diseases of the fallopian tube, such as hydrosalpinx can severely reduce the chances of pregnancy from in vitro fertilisation (IVF). Removing (salpingectomy) or occluding blocked or diseased fallopian tubes before in IVF can increase pregnancy and live birth rates for women on the IVF program. This review of trials found both laparoscopic salpingectomy and tubal occlusion prior to IVF increase the odds of pregnancy. However, other treatment options still need to be evaluated and the place of restorative tubal surgery in clinical practice needs to be evaluated.