IN A NUTSHELL

Aspirin is not recommended for women undergoing IVF

Background
The role of aspirin in women with infertility is controversial and the evidence is inconsistent; some studies have reported benefits in women undergoing IVF whilst others have not. An important gap in the literature was the question of when to start and when to stop aspirin and how long should aspirin be given for. In a 2007 systematic review on the effectiveness of aspirin on IVF outcomes involving 7 trials and 1449 participants, the authors’ conclusions was that the use of low-dose aspirin for women undergoing IVF could not be recommended due to lack of adequate trial data (Poustie et al., 2007). The current update includes 13 trials and 2653 participants and addresses the same question (Siristatidis et al., 2011).

Methods
The authors searched electronic databases, including MEDLINE, EMBASE and the Cochrane Library, proceedings of major reproductive medicine conferences and reference lists of retrieved articles, until January 2011. Eligible reports were parallel-design randomized trials comparing women undergoing IVF or ICSI cycles taking aspirin versus placebo or no treatment. The primary outcome was live birth. Secondary outcomes included clinical pregnancy, multiple pregnancy, ectopic and miscarriage rates, as well as complications during the IVF/ICSI procedure and pregnancy or birth. Binary outcome measures for each study were expressed and pooled using relative risks (RRs) with 95% confidence intervals (CIs).

Results

Trial quality
Thirteen studies met the criteria for inclusion in the review involving a total of 2653 women. Six trials used computer generated randomization, in 3 allocation concealment was appropriate (from an independent person or using sealed opaque envelopes), 11 involved blinding, 8 used placebo, while 8 were rated at high or moderate risk of bias.

Live birth rates
In 3 studies involving 1053 participants there was no evidence of a difference in live birth rates between treatment and control groups (RR 0.91, 95% CI 0.72–1.15).

Clinical pregnancy rates
Ten studies with 2142 participants reported clinical pregnancy rates and there was no evidence of a difference between the treatment and control groups (RR 1.03, 95%CI 0.91—1.17; Fig. 1).

Secondary outcomes
There was no evidence of a significant differences between treatment and control groups for multiple pregnancies [2 randomized controlled trials (RCTs): 680 women, RR 0.74, 95% CI 0.38–1.46]; ectopic pregnancies (3 RCTs: 1135 women, RR 1.86, 95% CI 0.75–4.63); and miscarriage rates (5 RCTs: 1497 women, RR 1.10, 95% CI 0.68–1.77).

Conclusions
In this update of a Cochrane review, the use of empirical aspirin for a general IVF population cannot be recommended for routine use in order to improve pregnancy outcomes. This is based on available evidence from randomized controlled trials in which no single outcome measure demonstrated a benefit with its use. In order to demonstrate a 10% improvement from the use of aspirin, a sample size of 350 women in each group would be required, something which is not difficult to find.

References


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