

Ultrasound-guided embryo transfer: summary of the evidence and new perspectives. A systematic review and meta-analysis.

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ABSTRACT

Despite the purported advantages of ultrasound guidance during embryo transfer, and the large number of clinical trials published on this topic, recommendations for the use of this technique in daily clinical practice are still under debate. We designed a meta-analysis based exclusively on evidence from published randomized controlled trials, with the aim of analysing the effect of trans-abdominal ultrasound guidance during embryo transfer versus clinical touch and of transvaginal ultrasound guidance (TV-US) versus the trans-abdominal approach on IVF outcomes. On the basis of 14 randomized trials, we found a moderate quality of evidence supporting the beneficial effects of transabdominal guidance during embryo transfer compared with conventional clinical touch in clinical pregnancy and ongoing or live birth rates. No significant differences were found in miscarriage and ectopic pregnancy rate, with low or very low quality of evidence, respectively. On the basis of three randomized trials, we found the quality of evidence supporting the equivalence of transvaginal versus transabdominal approach in clinical pregnancy and ongoing or live birth rates to be low. Finally, larger randomized controlled trials are necessary to explore the possible benefits of TV-US, three-dimensional ultrasound imaging modality, and uterine length measurement before transfer.