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142. Ultrasound- Guided Embryo Transfer: Summary of Evidences to Close the Open Debate and Unlock New Perspectives. Literature Review and Meta-Analysis

M Noventa (IT) [1], A Vitagliano (IT) , S Borgato (IT) , A Laganà (IT) , S Vitale (IT) , S Gizzo (IT) , C Saccardi (IT) , M Cozzolino (IT) , P Litta (IT)

CONTEXT: Despite the supposed advantages of ultrasound guidance during embryo transfer (ET) and the large number of clinical trials published on this topic, recommendations for use of this technique in daily
clinical practice are still debated.
OBJECTIVE: to summarize the impact of ultrasound guidance during ET on IVF outcome.
METHODS: We performed a systematic review and meta-analysis of randomized controlled trials (RCTs) evaluating the effects of ultrasound guidance during ET on IVF results. The review was reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Two reviewers performed the literature search and independently judged the methodological quality of studies included in meta-analysis using the Cochrane Collaboration's tool for bias risk assessment. The body of evidence was assessed using GRADE methodology. The statistical analysis was performed using Review Manager Version 5.2 (The Cochrane Collaboration, Software Update, Oxford, London).
PATIENTS: infertile patients undergoing fresh/frozen ET.
INTERVENTION: Studies were identified by searching electronic databases. We included RCTs comparing trans-abdominal ultrasound guidance (TA-US) during ET vs clinical touch (CT) and trans-vaginal ultrasound guidance (TV-US) vs TA-US. The summary measures were reported as odds ratio (OR) with 95% confidence-interval (CI).
MAIN OUTCOME MEASURES: clinical pregnancy rate, ongoing/live birth rate, ectopic pregnancy rate, miscarriage rate.
RESULTS: A total number of 14 RCTs were included. We found a moderate quality of evidence supporting the beneficial effects of TA-US vs CT in terms of clinical pregnancy rate (OR=1.41) and ongoing/live birth rate (OR=1.49). No difference was observed in miscarriage and ectopic pregnancy rate (p=ns), even if evidence body was of low/very low. Concerning the comparison between TV-US and TA-US, we found low quality of evidence supporting no difference in terms of clinical pregnancy rates and ongoing/live birth rates (p=ns).
CONCLUSIONS: Ultrasound guidance during ET appears to be promising. However, larger RCTs are needed to better understand the strengths and weaknesses of this technique on lower frequency events, such as ectopic pregnancy. Finally, larger RCTs are necessary to explore the possible benefits of TV-US, three-dimensional ultrasound imaging modality (3D-US), and uterine length measurement before

ET (ULMbET).

[1] University of Padua