

What is the Effect of Hyaluronan-Enriched Embryo Transfer Medium on Assisted Reproductive Outcome?

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Background

Assisted reproductive technologies (ART) are a group of treatments which aim to improve fertility. One such adjunct treatment is hyaluronan-enriched transfer medium (HETM). Hyaluronan is a macromolecule found naturally in the female reproductive tract. When hyaluronan is added to embryo transfer media in the lab, it may help the embryo to implant into the uterus and subsequently increase live birth rates.

Methods

Electronic database searches were carried out in May 2020 using predetermined search terms. Prospective randomised controlled trials which compared the use of HETM to a control group with no or low hyaluronan concentration were included in this systematic review. Studies were only included if they reported one or more of: live birth rate, clinical pregnancy rate, implantation rate, multiple pregnancy rate, or abortion (miscarriage) rate. Papers were screened by two independent reviewers, and data was extracted and critically appraised independently.

Results

Our literature search yielded 32 studies, seven of which reported our primary outcome of live birth rate. Analysis of the data suggested that HETM appeared more beneficial if used in a population of patients who had recurrent implantation failure. There was no clear evidence to suggest that HETM was beneficial in an unselected patient population.

Key Messages

Our literature search identified a conflicting body of evidence regarding the benefit of HETM in ART, with a range of methodological quality. There is currently a lack of high quality RCTs available, and further studies are needed to clarify if HETM is beneficial in patients with recurrent implantation failure.

