

COCHRANE COLLABORATION REVIEW UPDATE 2014¹ – A SUMMARY

In 2010, Cochrane Collaboration published a meta-analysis entitled "Adherence compounds in embryo transfer media for assisted reproductive technologies (Review)"².

In the review article it was concluded that the adherence compound hyaluronic acid (hyaluronan), included at a high concentration in a transfer medium (EmbryoGlue® by Vitrolife), increases clinical pregnancy rate (CPR) while a low concentration has no effect. In the same analysis no significant increase in live birth rate (LBR) was found. The lack of evidence for a higher live birth rate was explained by the fact that very few studies had that end point but commonly used clinical pregnancy rate as endpoint instead.

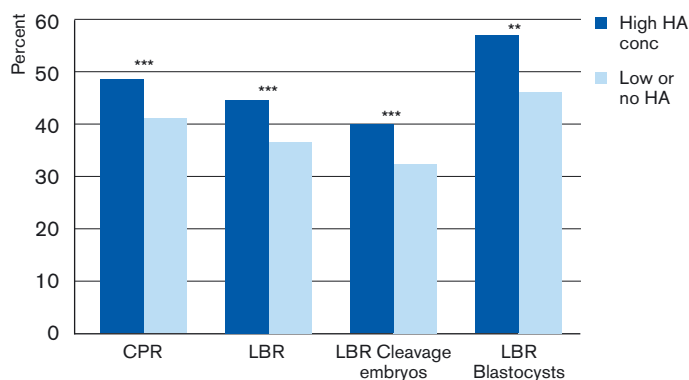
In 2014, Cochrane Collaboration published an update of their first review under the same title. All truly randomized controlled trials published up to November 2013 comparing embryo transfer media containing functional concentrations of hyaluronic acid (e.g. 0.5 mg HA/mL) versus transfer media containing no or low concentrations were included.

14 trials reported clinical pregnancy rate as study endpoint and 6 studies used also live birth rate as an endpoint. Altogether, 3898 participants were included in the 16 studies analyzed.

Results

Results are displayed in Figure 1. Clinical pregnancy rate as well as live birth rate was significantly higher when the transfer medium contained a high concentration of hyaluronan. Live birth rates for transfer of cleavage stage embryos and for blastocysts showed the same results.

Figure 1



The multiple pregnancy rate was also significantly higher with the use of high concentrations of hyaluronan demonstrating the implantation promoting effect of hyaluronan. The frequency of adverse events, such as miscarriages, was similar regardless of presence of hyaluronan.

Conclusion

The authors of the review article conclude that "Evidence suggests improved clinical pregnancy and live birth rates with the use of functional concentrations of hyaluronan as an adherence compound in ART cycles".

REFERENCES

1. Bontekoe et al. Adherence compounds in embryo transfer media for assisted reproductive technologies (Review). The Cochrane Collaboration 2014. Published by John Wiley & Sons, Ltd.
2. Bontekoe et al. Adherence compounds in embryo transfer media for assisted reproductive technologies (Review). The Cochrane Collaboration 2010. Published by John Wiley & Sons, Ltd.