

VITROLIFE G-SERIES™ CULTURE MEDIA IMPROVE BLASTOCYST DEVELOPMENT

Background

Embryo culture media has evolved in the last decades and is known to have an effect on embryo development and pregnancy rates in assisted reproductive technologies (ART). Hyaluronan exists naturally in both the oviduct and the uterus¹ and has been shown to increase blastocyst development², increase cryosurvival and have positive effect of implantation and fetal development after transfer.^{3,4}

Two recent studies presented at the Annual Meeting of the Japanese Society of Clinical Embryologist in 2013 compare the hyaluronan-containing culture media from Vitrolife G-Series (G-IVF, G-1 and G-2) with SAGE's culture media (Quinn's Advantage Sequential Culture Media).

Material & method

The first study⁵ included 1899 patients (4057 oocytes) in the SAGE group and 332 patients (793 oocytes) in the Vitrolife group. Following parameters were evaluated; normal fertilisation rate, multipronucleate formation rate, cleavage rate, blastocyst development rate, and good quality blastocyst (≥BB) development rate. In the second study⁶, oocytes from each patient were divided into one of the two groups (Vitrolife or SAGE) and the normal fertilisation rate, day 3 good embryo rate, day 5 blastocyst development rate, total blastocyst development rate and good blastocyst rate (≥3BB) were analysed. Patients with more than 2 oocytes inseminated were included in the study, and there were 28 cases of IVF and 82 cases of ICSI.

Results

The first study shows that there were no significant difference regarding normal fertilisation rate, multipronucleate formation rate and cleavage rate for the SAGE group compared to the Vitrolife group. However, significant differences were seen in the blastocyst development rate and good quality blastocyst development rate, in favour of culturing in Vitrolife G-Series media (see Figure 1).

REFERENCE

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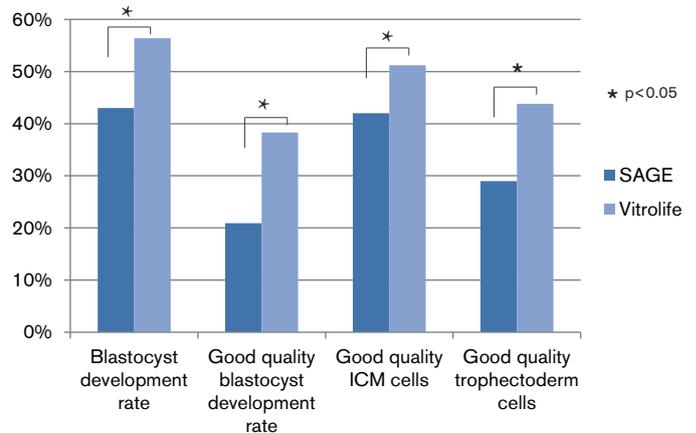


Figure 1. Culturing in Vitrolife G-Series media show significant difference ($p < 0.05$) regarding blastocyst development rate, good quality blastocyst development rate, good quality ICM cells and good quality trophectoderm cells compared to when using SAGE culture media.

For the IVF group in the second study there was no significant difference observed between the two culture media. However, for ICSI patients, cultivation of embryos in Vitrolife G-Series culture media raised the proportion of good day 3 embryos and also the rate of good blastocysts was improved (see Figure 2).

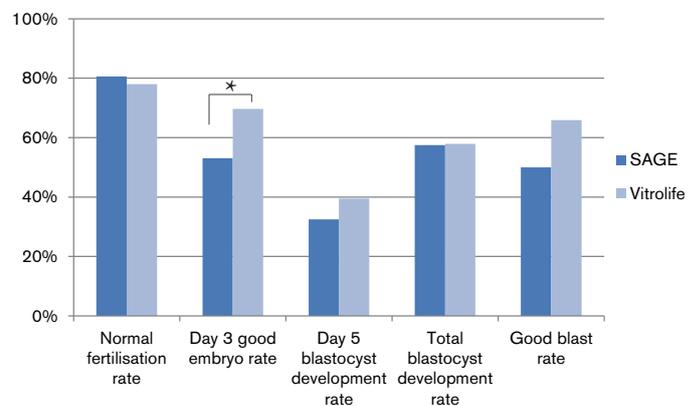


Figure 2. For ICSI patients, culturing in Vitrolife G-Series media show significant improvement regarding day 3 good embryo rate in addition to higher rate of good blastocyst development compared to culturing in SAGE media.

Conclusion

These data show that good quality embryo rate and blastocyst development can be improved when using G-Series culture media (G-IVF, G-1 and G-2) from Vitrolife compared to a HTF-based non-hyaluronan containing media.