

The Use of Adjuvant Treatment in IVF



Concept
Fertility
Centre

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Adjuvants (also called “add ons”) are defined as “therapies undertaken in addition to recognised standard ART treatment regimens. Some patients may undertake additional treatments which they believe will improve their chances of success. Some adjuvants treatments might be offered by health practitioners, as well as complementary and alternative therapists.

There are many treatment adjuvant therapies or add-ons or which can be used in an attempt to improve IVF treatment outcomes. These may be medical treatments or supplemental procedures that are applied in the laboratory whilst the embryos are being cultured. While these treatment options gather great attention from patients wanting to improve their chances of success, generally they have limited evidence to demonstrate an improvement of pregnancy and birth rates and thus remain unproven.

MEDICAL TREATMENTS

Endometrial Scratching

This is a minor procedure enacted in theatre which is intended to improve the endometrial receptivity to the embryo. It is done by inducing a small injury to the endometrium prior to embryo transfer.

Scientific studies for this treatment have been conflicting and have recently shown to be of no benefit.

Neupogen (Filgrastim)

This is a uterine wash performed prior to embryo transfer to aid uterine lining and endometrial receptivity. While some scientific studies convey a significant increase in implantation and pregnancy rates, other studies did not.

Endometrial Receptivity Assay (ERA)

The ERA measures the expression of relevant hormone-regulated genes in the uterine lining to help determine the most suitable time for embryo transfer in line with the window of implantation. It is proposed that in some women the window of implantation may be earlier or later than estimated by conventional means. It is proposed that the ERA might identify these individual changes and be beneficial in situations where multiple

embryo transfer procedures with good quality embryos have not been successful. Whilst the preliminary research is promising larger studies are needed before the benefit of ERA is established.

Co-Enzyme Q10

Also known as CoQ10, this is a supplement used for improvement of oocyte quality. It is important for energy metabolism and prevention of oxidative damage.

Studies have demonstrated better results for previous poor responding patients in terms of eggs collected, embryo quality and fertilization rate; however, pregnancy and live birth rate improvements have yet to be proven.

DHEA

This is an androgen pre-hormone; a supplement given for 3 months prior to treatment to improve gonadotropins in stimulating follicular development and may be useful for patients with diminished ovarian function or reserve. Studies are promising, with several studies demonstrating an improvement in IVF outcomes.

Growth Hormone (GH)

This is an injectable supplement which controls the effect of Follicle Stimulating Hormone on granulosa cells of the oocyte which is important for their development and maturation. Recent studies have demonstrated no benefit to pregnancy rates for poor responding patients, but do show a potential benefit for poor embryo development and poor endometrial development.

Ultrasound Guided Embryo Transfer

The embryo transfer is a vital part of the IVF process. It may be performed with 'clinical touch' technique or via trans abdominal/trans vaginal ultrasound. Transfer under ultrasound guidance has the benefit of visualizing where the catheter is inserted and placing embryos at a desired location in the endometrial cavity. However, a second operator is needed, procedure time is longer, and patient discomfort is higher due to the requirement of a full bladder.

LABORATORY TREATMENTS

Time Lapse Imaging

This is an advanced embryo incubation system which removes the need to take embryos out for assessment and is said to improve the selection of the embryo with the highest implantation potential. Studies currently do not show an improvement in pregnancy and birth rates.

Assisted Hatching

This is a procedure involving making a small hole made in the zona of a cleavage stage embryo (day 3 embryo) by a laser pulse which is thought to help the embryo 'hatch' out of the zona. Studies do not show a benefit to pregnancy and implantation rates.

Pre-implantation Genetic Testing of Embryos: PGT-A

This is a delicate process in which the embryos are biopsied and the cells are processed to determine the chromosomal profile. This is proposed to help women with advanced maternal age (>38), a history of recurrent miscarriage. While studies show this is not beneficial for all patients, there are definite benefits for the groups of patients mentioned above such as older women and those with a history of miscarriage. When considering all patients who start a PGT-A program (intention to treat) a benefit has not been shown because not all patients will have a chromosomally normal embryo available for embryo transfer. When considering pregnancy outcomes per chromosomally normal embryo the research shows an improved pregnancy rate in women over 35 years of age per embryo transfer procedure.

FURTHER INFORMATION

If you wish to have further information on IVF add-on treatments, please discuss with your Fertility Specialist or call the Scientific Director at Concept on: (08) 9382 2388.

You can also email us at: concept@conceptfertility.com.au.

LIST OF ADJUVANTS AVAILABLE AT CONCEPT

- Endometrial Scratch
- Neupogen
- PGT-A
- Assisted Hatching
- Growth Hormone
- DHEA
- Co Enzyme Q10
- Endometrial Receptivity Assay

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