

fertility matters @ wesley

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IVF Research - The FACTS

Dr John Allan, Medical Director, Wesley Monash IVF

In this edition, Dr John Allan, Medical Director of Wesley Monash IVF explains about the facts relating to some of the current IVF Research being undertaken.



THE SPLIT EJACULATE

An old technique should probably still be considered for the preparation of semen for IVF treatment and intrauterine insemination, especially where male sperm factors contribute to the couple's infertility. The first part of the ejaculated semen sample contains semen mixed with prostatic fluid and the later part of the ejaculate sample contains semen and seminal vesicular fluid.

It has now been established that seminal vesicular fluid has a negative effect on sperm vitality, motility and sperm chromatin stability. On the other hand prostatic fluid seems to have an opposite but positive effect on semen quality.

In the early years of IVF, split ejaculate or first part of the sperm ejaculated was the only sperm prepared for intrauterine insemination and IVF because of its better quality. If male factor fertility or poor egg fertilisation is a contributing factor to a patient's fertility, their IVF Specialist will discuss the collection of the first part of the ejaculated sample (split ejaculation) to be used in their IVF or IUI treatment.

METABOLOMICS, PROTEOMICS AND GENOMICS

Genomics, proteomics and metabolomics are all methods of embryo profiling which endeavour to identify the embryo that is more likely to implant in the uterus and subsequently result in a healthy pregnancy. Each one of the techniques essentially measures various aspects of the embryo in culture in the IVF laboratory and assigns a viability score and this, coupled with the microscopic appearance of the embryos indicates which embryos would be the most suitable to transfer into the uterus.

Currently there are not enough randomised controlled studies available to indicate that any of these techniques could be considered as standard good ART practice, and until such data is available their use should be considered experimental. Furthermore to date, the value of these techniques as opposed to extended embryo culture (blastocyst) has not yet been proven.

The question also arises if an embryo (using any of the above techniques) is assigned a poor viability score but has developed into a good blastocyst, should the embryo be discarded or transferred. Likewise if the embryo has been assigned a good viability score but has not developed into a good cleaved embryo or blastocyst, should it be transferred.

The data answering these questions is still not available. Time will give us the answers to these questions when the studies have been completed, but patients employing these techniques should be counselled accordingly.

CULTURE MEDIA OF THE FUTURE

Ideally our laboratory culture media should mimic the environment of the fallopian tube. The fallopian tube is where the embryo develops for the first 5 days of its existence before it enters the uterus.

The extended culture media used in most laboratories to help the embryo grow to blastocyst (day 5 embryo) has improved the chances of an embryo implanting in the uterus. However, we know that some of the embryos do not grow to blastocyst because of oxidative stresses either to the egg or sperm or to the embryo in culture in the IVF laboratory. Current research is aimed at further improving culture systems in an endeavour to rescue the gametes (eggs and sperm) and the embryos that are under stress, thereby obtaining a stronger embryo for transfer into the uterus. These new culture systems will be more likely to help the older group of patients whose eggs, sperm and embryos are more susceptible to these chemical stressors.

PROGESTERONE (HOW MUCH IS IDEAL?)

Progesterone is produced in the menstrual cycle after ovulation and in conjunction with oestrogen prepares the endometrium (lining) of the uterus for the embryo to implant.

In a natural (normal) cycle the progesterone production is dependant on the development of the graafian follicle in the first half of the menstrual cycle. Therefore it is important that the egg develops normally in the first half of the cycle (usually days 1 to 14) if the correct amount of progesterone is to be produced in the second half of the cycle.

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Therefore if the egg doesn't develop correctly, adding progesterone in the second half of the cycle will not correct the hormone problem.

All IVF units add some progesterone (in the form of injection, vaginal pessaries or gel) after the eggs have been removed from the ovaries.

The correct amount of progesterone to be used has never been established but some patients may benefit from an increase in dose of progesterone (e.g. older patients, endometriosis patients).

However it should also be noted that too much progesterone may actually inhibit implantation of the embryo and some animal studies have shown high dose progesterone may have an adverse effect on the female foetus. More is not necessarily better.

Nurse Coordinators L to R - Angela Banning, Glenda Budz (Pharmacist), Kara Carter, Tanya Wallace, Cheryl Morton, Karen Dever.

INTRODUCING OUR SUPPORT TEAM

At Wesley Monash IVF we have a dedicated team of nurse coordinators that provide initial and ongoing education, counselling and support and offer personalised one on one care for patients throughout their treatment cycle.

In addition to our nursing support we are also one of the first IVF units to provide the support of an on site qualified registered pharmacist. The pharmacist works with the Nurse Coordinators and Clinicians to provide a seamless service of stock control, dispensing and educating patients on medications. This service extends to our country patients ensuring comprehensive support for each and every patient.



Wesley Monash IVF Clinicians

Wesley Monash IVF is proud to have a dedicated team of highly skilled and experienced Fertility Specialists. All have specialist obstetrician and gynaecological qualifications and have developed their special interests in infertility areas over many years.



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Experience the Wesley Monash IVF Difference

- Experience & Expertise
- Responsible & Ethical Management
- Personalised, Caring Service
- Central Location & Facilities
- Counselling & Support
- Success with more than 2000 babies

Our Doctors

- Dr John Allan
- Dr John Chenoweth
- Dr Stephen Baines
- Dr Stephen Cook
- Dr Dana Moisuc
- Dr Ross Turner



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