

FPSNews

Fertility Preservation Service
September 2011



Fertility Preservation Service - an update...

The Melbourne IVF Fertility Preservation Service database is a registry of approximately 1150 patients with results of the procedures and techniques recorded and outcomes quantified. New patient registrations are ongoing.

There is no doubt that Melbourne IVF is still considered the leader in this field.

There are many options to help people diagnosed and treated for cancer to preserve their fertility. However, it is important that this discussion takes place as early as possible, as many of the available fertility preservation options require time to perform before cancer therapy begins. We are working hard developing relationships with The Cancer Council of Victoria, Clinical Oncological Society of Australia, Adolescents and Young adults group (COSA-AYA), Victorian Assisted Reproductive Treatment Authority (VARTA) and Haematology-Oncology Networks to name a few. Recently, we have launched a medical fertility preservation "Special Interest Group" within the Fertility Society of Australia with Australasian membership of clinicians, scientists, researchers and nurses. One of the main initiatives of this group is to develop national guidelines for fertility preservation; to achieve this objective the group are working towards the development of a national fertility preservation database. We believe that a national fertility preservation database will facilitate collaboration of experts in the field, and allow accurate reporting of all patients requiring fertility advice in this situation. This data will be extremely valuable in providing insight into the magnitude of the problem and assist with future resource allocation.

And we haven't forgot about the other half...Male Fertility Preservation

With a very successful fertility preservation program for women, we are in the process of mirroring the same program for the men. Our fertility preservation service database provides a wealth of information for our program, allowing us to identify gaps in knowledge and ask the appropriate research questions. Our Fertility Preservation Service database has become the benchmark for the implementation of a National database. We are now further developing our database to ensure that we are providing the same level of support for men who have preserved their fertility, and that we remain current in research pertaining to male fertility preservation.

Extended storage for gametes, embryos and ovarian tissue...

We would also like to remind patients that there is a ten year limit on storage of eggs and ovarian tissue and a five year storage limit on the storage of embryos. The form for an extension of storage time can be obtained from the Patient Review Panel web-link, www.health.vic.gov.au/prp/

A Better Service for you...

To ensure that you are updated with the progress of our program, please continue to inform us if your personal/ contact information has changed. We would also love to hear from you if since your diagnosis and post your fertility preservation treatment, you have had a baby. Also, if you are interested in participating in our ovarian tissue program, using your stored ovarian tissue, and have been diagnosed with premature ovarian failure or would like to have an assessment of ovarian function, please telephone Reproductive Services reception staff on: (03) 8345 3200 or (03) 8345 3221. Or Melbourne IVF on: (03) 9415 1838 or (03) 9415 1815. To make an appointment with our fertility preservation specialists, Dr Kate Stern or Dr Manuela Toledo. Please be sure to explain to the reception the reason for your request to ensure a prompt appointment!!

Have your say and help support our ongoing research activities...

We are always looking for support to pursue our very important research through which we hope to achieve the best possible outcomes for our patients. We would really appreciate it if you could drop us a line, via e-mail, fax or mail, just to let us know that you value the research we are doing. We would also like to thank those patient who donate a small proportion of their tissue to research; without this we would be unable to improve our patient procedures.

You can contact us at: Melbourne IVF (Clinical Research Team), Suite 10/320 Victoria Parade, East Melbourne 3002. Tel: 03 9473 4569 or 9473 4570. If you prefer to contact us by e-mail, and to be contacted by e-mail, e-mail us at: clinical.research@mivf.com.au

Research update...

Current areas of research in our fertility preservation program include: ovarian tissue grafting, vitrification, in vitro maturation and investigator-initiated clinical trials.

Ovarian tissue grafting

Ovarian tissue has been stored in our program for over 300 patients, usually just prior to potentially sterilizing chemotherapy. Ten ovarian tissue grafts have now been performed in eight patients who presented requesting consideration of grafting. All patients have undergone regular endocrinological and morphological surveillance to monitor ovarian function. IVF cycles using a variety of protocols including natural cycle ICSI and modified antagonist ICSI have been performed in three patients.

Ovarian function has been restored in between three and nine months after grafting.

Over 96 cycles have been observed in total in these patients, with a total of 20 IVF cycles attempted and nine embryos have been created. We can confirm through abdominal ultrasounds of the graft site that oocytes have been obtained from the heterotopic site as well as the orthotopic site, and in one cycle a 2-cell embryo of reasonable morphology, created from an egg retrieved from the pelvic abdominal wall, was transferred, unfortunately without a pregnancy. This is a very promising result for our graft patients and a major step forward.

However obtaining good quality embryos is very difficult, with high attrition, and this may be partly related to unpredictable follicle dynamics in grafted ovarian tissue as documented by all other groups. We can only learn more about the dynamics of this tissue with more patients attending our program to have their tissue grafted. We continue to evaluate different strategies for grafting techniques eg: optimal size and number of slices, location of graft and methods of securing tissue in grafts.



Ultrasound evidence of follicular development from grafted ovarian tissue.

In vitro maturation

Furthermore, we are beginning to develop different options for immature egg retrieval, with minimal hormonal stimulation for egg freezing. This is to reduce the time required for one cycle of egg freezing for cancer patients, and to reduce hormonal stimulation for patients with oestrogen receptor positive breast cancers.

Vitrification

The introduction of vitrification (the rapid cooling of cells in a highly viscous solution without the formation of ice) into ART, as an alternative to the traditional slow freezing, has been successfully used to cryopreserve human blastocysts and oocytes. Vitrification is a technique we would like to apply to ovarian tissue. Vitrification has the potential benefit of preserving more of the surrounding tissue such that more typical follicle growth and larger follicle diameters may result. This may also potentially extend the period of graft function in patients.

Clinical Trial

Melbourne IVF is also leading a national, multi-centre, investigator-initiated, randomised controlled trial, evaluating the protective effect of a GnRH agonist (GnRH-a) on ovarian function in young women with Non-Hodgkin's Lymphoma receiving R-CHOP-14 at risk of ovarian failure and infertility. Advances in chemotherapy regimens have seen survival rates for Non-Hodgkin's Lymphoma patients exceed 90%. Beyond survival, for these young women, attention is increasingly drawn to the risk of ovarian failure as a consequence of cancer treatments.

There is evidence that GnRH-a may protect the ovaries during chemotherapy and thus reduce the risk of premature menopause and infertility. This randomised controlled trial will aim to assess whether a GnRH-a given during the time of a fixed chemotherapy protocol for Non-Hodgkin's Lymphoma can protect ovarian function and potential fertility. This trial is designed so that half the women will receive the chemotherapy (with a progesterone-only oral contraceptive pill) and the other half will receive the chemotherapy and the GnRH-a (with a progesterone-only oral contraceptive pill). Assessment will consist of blood tests, bone density tests and ultrasound over 5 years, with primary endpoints measured at 12 months and 3 years. Despite increased longevity of cancer survivors, approaches to improving their quality of life are not well-understood. This is of particular importance for young female survivors, where preserving ovarian function, either for the purpose of fertility preservation or for restoration of endocrine function, is a concern. To counter this deficit in research, the prospective design and long term follow-up of this study will aim to provide evidence-based practice for clinicians and increased options for this population of women.

The lack of rigor of trials evaluating GnRH analogues in this setting, highlights the need for further properly conducted studies.

The trial is currently open for recruitment and seeks women who are anticipated to receive 6 cycles of R-CHOP-q14 chemotherapy treatment, with curative intent for Non Hodgkin's Lymphoma, and are aged between 14 and 38 years (inclusive) at the start of treatment. Please contact the Clinical research Department at Melbourne IVF on 9473 4569 or 9473 4570 or via e-mail: clinical.research@mivf.com.au should you require further information.



Melbourne IVF is one of only a handful of units which provide scientific and clinical fertility preservation programs.

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