The Hewitt Fertility Centre

NHS Liverpool Women's NHS Foundation Trust

Endometrial receptivity (ERA), Endometrial Microbiome (EMMA) and Analysis of Chronic Endometritis (ALICE)

Background

Infertility affects 10-15% of couples in the UK, requiring them to proceed with assisted reproduction technology. Despite the recent advances in these techniques, only 1 in 4 attempted IVF cycles results in a baby and only 50% of women under the age of 35 achieve a clinical pregnancy after having a blastocyst transfer.

Repeated Implantation Failure (RIF)

RIF is determined when transferred embryos do not implant after several attempts. RIF or reduced endometrial receptivity[1] may be caused by:

- Underlying problems in the eggs or sperm
- Underlying problems in the embryos
- Underlying problems in the uterus lining
- Unknown reasons

A number of tests may be used to understand why embryos do not implant. The tests are not guaranteed to give conclusive results. Results from randomised controlled trials assessing the usefulness of these tests are not yet available.

The "endometrial health pack" by Igenomix (Spain) was recently presented at a medical conference as a way of testing RIF. This test consists of an endometrial biopsy that is sent for specific testing.

What tests do we offer?

The ERA test of implantation receptivity challenges the notion that the implantation window is the same for all patients and that for some, replacing an embryo either a day earlier or later may be associated with better results. This would only be appropriate for IVF patients who have a history of RIF. The ERA test is not suitable for patients who experience recurrent miscarriages after natural conception.

The EMMA test looks at the endometrial microbiome and determines the healthy bacteria levels that may play a role in embryo implantation. Probiotic treatment may be suggested to balance the endometrial flora with the aim of improving chance of pregnancy.

The ALICE test looks for 8 types of bacteria that are potentially harmful to an implanting embryo for which antibiotic intervention may be advised.

These tests are considered to be experimental and are offered at a non-profit price to patients.

Costs

There will be an additional charge for this add-on treatment. Please see our fee schedule or website for more information.

https://www.thehewittfertilitycentre.org.uk/costs-and-funding/costs/

What is required?

Once the decision has been made with your doctor to undertake this test, an endometrial biopsy is taken between Day 15 and Day 25 of the cycle. It may be necessary to prepare the womb lining with a combination of oral oestrogen tablets and vaginal progesterone pessaries for the biopsy.

An endometrial biopsy is taken by passing a catheter through the cervix and lightly suctioning the endometrial tissue using gentle catheter pressure. The biopsy sample is deposited in a tube and transported to Igenomix for testing. The test results are usually available after 3-4 weeks. A suggested management plan to correct any imbalance is provided. Igenomix analysis of repeat testing is 20% cheaper for further tests. The cost of the procedure by our clinic also still applies.

The ERA test needs to replicate as closely as possible the planned embryo transfer process, especially in relation to duration of progesterone exposure. We have found through several audits that natural frozen embryo transfers have an increased pregnancy rate and lower miscarriage rate than medicated, however those with irregular cycles and erratic ovulation require a medicated approach. Progesterone is a hormone released gradually after ovulation. Duration of progesterone exposure is important for implantation and the ERA test. For natural FET we ask you to phone with a morning LH surge and the embryo transfer is 6 days later. However, natural ovulation is harder to exactly pinpoint, so if natural FET is planned you need to be aware of this pragmatic interpretation of the ERA result and timing of your embryo transfer. Taking an HCG 'trigger' injection does force ovulation, but the hormone profile is a sharp spike, rather than a physiologically gradual rise and fall. Medicated approach (using oestrogen and progesterone) is more controlled but has the disadvantages stated earlier. So, it is important to discuss the planned future techniques for your embryo transfer with the clinic staff. Precise timing for EMMA and ALICE is less important but should ideally be done as described above.

Are there any risks?

The biopsy procedure is uncomfortable and you may experience some discomfort and very mild vaginal bleeding after the procedure. There is a very rare chance of developing an infection. If you develop a high temperature within a few days of the procedure, experience severe cramping, or unusual bleeding (not just spotting), or offensive vaginal discharge, or are concerned at any time, please contact the Hewitt Centre for further advice. There is also a small chance that the procedure gets abandoned due to difficult entry.

These tests are described as 'add-on' treatments. For more information on treatment add-ons, please refer to the HFEA website:

https://www.hfea.gov.uk/treatments/treatment-add-ons/

Please discuss the current HFEA traffic light status for this treatment with your fertility specialist.

If you are unsure whether you should have any of these tests performed, please contact the Hewitt Fertility Centre.

References

1. Das M, Holzer HE. Recurrent implantation failure: gamete and embryo factors. Fertil Steril 2012;97(5): 1021–7

This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at pals@lwh.nhs.uk

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