ESHRE 2020 Virtual (5-8 July 2020)

Questions for the speakers

Session 51: RM: new diagnostic and therapeutic aspects

The precise identification of the window of implantation using the molecular tool ER Map® in ART cycles significantly improves clinical outcomes - Maria Enciso (Spain)

Q: How this ER map tool is different from ERA test? is there some overlap between the two?

A: There are important differences between these two test. These differences are summarised in the following table.

DIFFERENCES	*ERA*	*ER Map®*
Validated (published) Technique used	Microarray, results need to be validated by qPCR	qPCR, the most accurate and reliable gene expression measurement technique currently available. It is considered the gold standard for gene expression analyses
Current Technique used	NGS, results need to be validated by qPCR	qPCR, the most accurate and reliable gene expression measurement technique currently available. It is considered the gold standard for gene expression analyses
Test development: Genes selected	Unselected source of genes involved in many biological processes but not specifically expressed in the endometrium or related to the process of endometrial receptivity. Agilent customized gene expression microarray was used	Selection of genes specifically described in the literature to be expressed in the endometrium and involved in the process of endometrial proliferation and embryo implantation.
Test development: Experimental design	For the development of the test, N=20 biopsies from 20 different subjects biopsied in LH+1, LH+3, LH+5 and LH+7 (5 on each day) were used. This design incorporates no control of intrapatient variation for the definition of the WOI signature A training set N=68 subfertile patients was used to train the algorithm.	For the development of the test N=182 biopsies from 96 donors biopsied twice in LH+2 and LH+7 were used. This design incorporates control for intrapatient variation since samples from the same patients inside and outside the WOI were included in the identification of the WOI signature. A training set N=96 subjects was used to train the algorithm.
Genes selected	284 genes (7 genes in common with ERMap)	40 genes (7 genes in common with ERA)

Q: What is the difference from ERA test?

A: Already answered in the previous question

Q: What is the difference between your ER Map and ERA. How much does it cost, and does the patient need to repeat the test again if it did not work?

A: The first question was already answered previously. With regards to price you have contact iGLS commercial team, this is information I do not have. I am not sure what do you mean by "it did not work", but sure, if for some reason we are not able to process the sample, if we do not have enough or good quality RNA a new biopsy will be needed.

Q: How is your ER Map different from the ERA by igenomix?

A: Already answered in the previous question

Q: Do you mean that we use one cycle to identify WOI, then another cycle for treatment/ embryo transfer?

A: Yes, we use one "mock" cycle to identify the WOI and another similar cycle for embryo transfer.

Why did u include multiple groups of pt in inclusion criteria?

We wanted to test the utility of the tool to improve ART in any circumstance so we decided to analyse results from all couples requesting ER Map test. We believe that the precise identification of the window of implantation and the personalized embryo transfer, can potentially help any type of patient and not only those suffering from implantation failure.

Q: How many patients in the group of patients not respecting recommendations of ERA test and why was it not respected?

A: Approximately 10% of transfers were performed with a deviation of more than 12h from the WOI identified by ER Map, we ignore the reason of this decision. We hypothesize it may be due to: i) doctors´ decision to transfer with a different protocol than the one recommended by ER Map; ii) errors in the start of the medication or iii) errors in transfer schedule.

Q: Any association between serum p4 level and shift in WOI?

A: We do not have data in this sense yet but it is a very interesting aspect that we would like to do research on.

Q: How was the endometrial thickness in patients with early WOI? Does it matter?

A: We do not have these data but it is a good point. We can have a look at this from now on and hopefully get back to you soon with an answer.

Q: ERmap, which was the most frequent day of transfer in the ER map group that showed the higher pregnancy rate?

A: The days of transfer in the group that followed ER Map recommendation that showed the higher pregnancy rates were P+ 5 (58.6%) followed by P+6 (58.1%) and P+ 7 (52.9%).

Q: Is there any recommendation for ESRHE to do ERA inpatients with implantation failure?

A: As far as I know ESHRE does not have an official opinion about this matter.

Q: Are you planning to perform an RCT on the use of ER Map – change ET-date or not?

A: Yes, we would like to do this RTC.

Q: Does ER Map perform well both for natural and HRT cycles?

A: Yes, we have good experience in both natural and HRT cycles. Although most of our data (the ones presented in this communication) come from HRT cycles. In cases where natural cycles are preferred, we recommend modified natural cycles with hCG trigger that facilitate the establishment of time 0 for window of implantation identification