Recent advances in endometrial receptivity diagnosis

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Endometrial receptivity refers to a hormone-limited period in which the endometrial tissue acquires a functional and transient ovarian steroid-dependent status allowing blastocyst adhesion. Functional genomic studies of human endometrium in natural cycles have demonstrated that endometrial receptivity is an d a active process involving up- and down-regulation of hundreds of genes.

Personalized medicine is a well-accepted concept in reproductive medicine except for the endometrial factor that is still neglected. Our group has developed the endometrial receptivity array (ERA), a customized array of 238 genes now performed using Next Generation Sequencing (NGS) coupled to a computational predictor capable of diagnosing the window of endometrial receptivity regardless of its histological appearance. The accuracy of the diagnostic tool ERA has been demonstrated to be superior to endometrial histology and results are completely reproducible 29 to 40 months later.

The aim of this presentation is to demonstrate the diagnostic and therapeutic efficiency of the ERA in patients with implantation failure (IF), through personalization of the day of embryo transfer (pET) and our experience in more than 8,000 patients We propose ERA as the first diagnostic test for the endometrial factor to guide the personalized embryo transfer.