Improving the probability of successful in-vitro fertilisation through vaginal microbiome screening using Advanced Technique for Genetic Composition.

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The relationship between the vaginal microbiome and the probability of a successful in-vitro fertilisation (IVF) have been well documented in the past few years. We propose to use Advanced Testing for Genetic Composition (ATGC) to measure the vaginal microbiome in routine IVF. The goal of our analysis is to develop a diagnostic that could establish a link between vaginal microbiome and the success rates of IVF. ATGC consists in cycling temperature capillary electrophoresis (CTCE) combined with bioinformatics and statistical modelling used to separate DNA molecules based on their physical properties. This technology linked to a specific target will allow us to save time, money and reducing the risks associated with the biopsy currently used. We present the results of a benchmarking analysis against 16S. ATGC shows better results in the latest studies in vaginal infections and with high level of accuracy to screen samples and predict reproductive outcomes. Because of those characteristics already demonstrated, those results are often associated with qualitative and quantitative measurements that allow us to better understand not only the presence of some microbes but also the relation between those based on the level of each one in that specific sample. The model and latest results with ATGC analysis has demonstrated that it is possible to produce effective treatments for Reproductive Medicine.