Poster

Study of the importance of various factors in endometrial receptivity and functionality to test their impact on infertility and search for possible treatments

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Keywords: infertility, endometrium, endometrial functionality

ABSTRACT

Infertility is a reproductive disease characterized by the inability to achieve a pregnancy after 12 months of unprotected sexual intercourse. This disease affects about 10% of couples and may be due to either a male or female disorder. Infertility can be affected by many factors, such as chronic stress, age, diabetes, obesity, diet, lifestyle and environmental influence, among others. Besides, it can be primary; if there is absence of previous pregnancy, or secondary; if there was already a successful pregnancy. The primary one involves alterations in the reproductive organs, among the main ones is the altered functioning of the endometrium. This mucous lining undergoes an important remodeling where there are also key changes that can affect the receptivity of the endometrium and therefore optimal implantation [1]. On the other hand, the role of the immune and endocrine systems is important, since they are involved in endometrial physiology [2]. The endometrial microbiome (ME) also correlates with endometrial physiology, so its composition and function should be known. Lactobacillus predominates in the ME (> 90%) and is associated with reproductive success. Moreover, their decrease is related to reductions in the implementation rate [3].

The references obtained gather information on infertility, a disorder with several causes, but in this study we focus on the role of the endometrium, mainly studying the state of receptivity and the composition of the microbiome. Our main objective is to characterize the influence of pathologies and external clinical aspects, such as the presence of adenomyosis, obesity and ectopic pregnancies, on endometrial functionality and receptivity. To do this, endometrial biopsies are obtained from infertile patients, which are extracted during days 19-21 of the menstrual cycle, which corresponds to the implantation window period. From the biopsies, nucleic acids (DNA, RNA) and proteins are extracted for later use in different techniques. Nucleic acids are used to perform PCR and RT-PCR techniques, which are useful for the detection of selected microorganisms in the EM. The ELISA technique is also performed for the immunological evaluation of the endometrium. The study will serve to restore endometrial balance with the use of treatments.

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