

Morphometric and histological analysis of chronic end metritis in women of reproductive age

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Abstract - Despite the high achievements of modern morphology, some issues related to the pathogenesis of infertility and habitual miscarriage remain poorly understood, which determines the possibility of further research. It is known that endometrial steroid receptors play an important role in the process of pregnancy initiation and continuation. Meanwhile, in relation to unclear infertility, as well as chronic end metritis, as the causes of reproductive pathology, endometrial receptors for estrogen and progesterone have been studied only to a small extent, which, of course, requires supplementation.

Keywords: receptors in women, hormonal status, menstrual cycle, morphological picture

1. INTRODUCTION

From the point of view of morphometric research of the endometrium, there is also a lack of knowledge in this area of female reproductive pathology. In such a situation, clarification and addition of path morphological changes in the endometrium may help to increase the level of diagnosis of the causes of reproductive pathology, which in turn will help to find new ways for their comprehensive correction.

To study path morphological changes in the endometrium and the expression of endometrial estrogen and progesterone receptors in women with infertility of unknown origin, infertility and habitual miscarriage in chronic end metritis.

2. RESEARCH OBJECTIVES

1. To conduct a comprehensive path morphological, bacteriological and biological, immunohistochemically study of the endometrium and hormonal status in women with habitual miscarriage in chronic end metritis with an assessment of correlations between the studied parameters.

2. Conduct a comprehensive path morphological, bacteriological and virological, immunohistochemically study of the endometrium and hormonal status in women with infertility in chronic end metritis with an

assessment of correlations between the studied parameters.

3. Conduct a comprehensive path morphological and immunohistochemically study of the endometrium and hormonal status in women with infertility of unknown origin with an assessment of correlations between the studied parameters.

4. To conduct a comparative analysis of path morphological, immunohistochemically indicators of the endometrium and hormonal status between women with habitual miscarriage and infertility in chronic end metritis, and infertility of unknown origin.

Working for the first time:

- It was found that women with habitual miscarriage in chronic end metritis have a marked decrease in the expression of estrogen and progesterone endometrial receptors in the secretory phase of the menstrual cycle, while the hormonal background of blood plasma remains unchanged. The revealed marked reduction of the glandular component of the endometrium in the secretory phase of the menstrual cycle does not correlate with a decrease in the expression of the endometrial steroid receptor apparatus.

- It was found that in women with infertility in chronic end metritis, a decrease in the expression of endometrial progesterone receptors in the phase of proliferation and secretion of the menstrual cycle is combined with a reduction in the glandular component of the endometrium in the phase of secretion, as well as with a decrease in the level of estradiol and progesterone in blood plasma in the phase of menstrual cycle secretion, while there is no correlation between these pathological processes.

- It was found that women with infertility of unknown origin have a decrease in the expression of endometrial progesterone receptors in the proliferative and, especially, in the secretory phase of the menstrual cycle against the background of normal blood plasma hormones and unchanged morphological picture of the endometrium.

• It was found that in the endometrium of women with habitual miscarriage in chronic endometritis, in comparison with other study groups, the most pronounced and statistically significant decrease in the level of expression of endometrial receptors for estrogens and progesterone is noted, along with a decrease in the volume density of the glandular component, both in the proliferative and secretory phases of the menstrual cycle. • A comprehensive study of the endometrium in women with reproductive pathology in chronic endometritis using various methodological approaches, including light microscopy with morphometry, immunohistochemically analysis of endometrial steroid receptors, which allowed us to Supplement the understanding of morph-functional changes in the endometrium in the studied pathology.

3. SCIENTIFIC AND PRACTICAL SIGNIFICANCE

The results of a comprehensive path morphological and immunohistochemically study of the endometrium of women with infertility and habitual miscarriage in chronic endometritis suggest that the endometrial steroid receptor system is an important link in the mechanism of reproduction and the violation of this system in conditions of chronic inflammation significantly affects the morph-functional state of the endometrium. Identification of the degree and nature of changes in the steroid receptor apparatus in combination with path morphological analysis of the endometrium in women with reproductive disorders in chronic endometritis, as well as in infertility of unknown origin, allows us to judge the severity of reproductive dysfunction and outline possible tactical options for eliminating these disorders.

The main provisions submitted for protection

1. In women with infertility and habitual miscarriage in chronic endometritis, as well as with infertility of unknown origin, a constantly occurring immunohistochemically sign is an interdependent decrease in the level of expression of glandular and stromal endometrial cells to progesterone in both phases of the menstrual cycle with a significant decrease in this indicator in the secretion phase. These changes in the steroid-receptor apparatus of the endometrium in the secretory phase of the menstrual cycle occur regardless of changes in the morphological substrate of the endometrium.

2. The main criteria for path morphological changes in the endometrium in women with

reproductive pathology in chronic endometritis are: first, a decrease in the volume density of the glandular component of the endometrium; second, an increase in the numerical density of stromal and lymphoid cells, with a predominance of the latter. Women with habitual miscarriage with chronic endometritis have the most pronounced and uneven reduction of the endometrial glands. In women with infertility in chronic endometritis, the numerical density of lymphoid cells increases to a greater extent with a four-fold increase in them.

3. Changes in the level of plasma estradiol and progesterone were observed only in women with infertility in chronic endometritis, which, along with the established fact of reduced expression of estrogen and progesterone endometrial receptors, indicates in favor of the scientific hypothesis of possible afferent impulses of pathologically altered endometrial receptors, which, in turn, can affect the secretory function of the ovaries - on the principle of "feedback".

4. Differential diagnosis of reproductive function disorders in women with chronic endometritis should be carried out using modern methods and a comprehensive analysis of clinical, bacteriological and virological, hysteroscopy, path morphological and immunohistochemically research methods, including correlation analysis.

A significant role in the development of chronic endometritis belongs to violations of local and General immunity, which manifest inflammatory complications after childbirth and abortion. Prolonged stimulation of endometrial immunocompetent cells by an infectious pathogen leads to decompensation of the regulatory mechanisms of local homeostasis, which supports the persistence of the infectious process.

Common morphological criteria for the diagnosis of chronic endometritis:

- ✚ The presence of inflammatory infiltrates, consisting mainly of lymphoid elements and plasma cells with a focal nature of the location-around the glands and blood vessels. The diffuse nature of the location of lymphoid elements is not excluded. Infiltrates are located mainly in the functional layer, but their basal location is also very characteristic.
- ✚ Formation of lymphoid follicles in the functional layer of the endometrium.
- ✚ Focal stroma fibrosis, which occurs during a long course of chronic inflammatory process in the

endometrium and sometimes captures large areas.

- ✚ Sclerotic changes in the spiral arteries with the formation of tangles of spiral arteries.
- ✚ Dystrophic changes in the endometrial glands. Changes in the glandular and stromal components do not correspond to the days of the menstrual cycle.

Given the complexity of the structure and the ability to cyclic transformation, in the endometrium, these changes are particularly pronounced and difficult to correct. In this case, the endometrial receptivity consists of many factors, each of which requires evaluation.

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