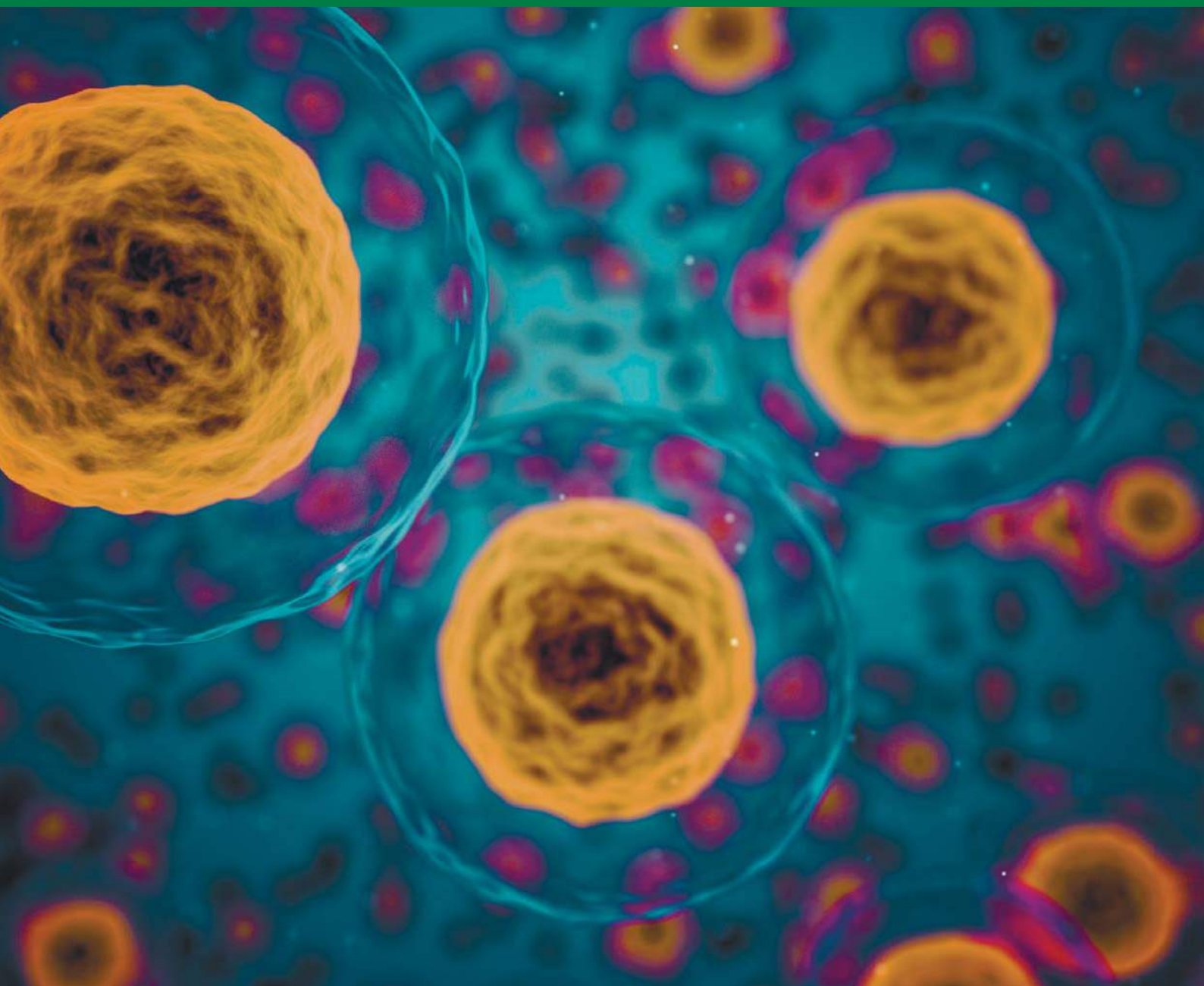


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PATHOPHYSIOLOGICAL ASPECTS OF COVID-19 AND ENDOMETRIOSIS: ROLE OF CELLULAR RECEPTORS IN PATHOGENESIS

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Actuality. Endometriosis causes both subjective (spastic pain in pelvis, dysmenorrhea, menstrual irregularities, dyspareunia), objective (presence of endometrioid tissue outside the uterus) specific symptoms. It impairs on the quality of patient's life. Inflammation and abnormal immune response and are signs that took place in the endometriosis and Covid-19.

The goal is to establish the impact of cellular receptors in the pathogenesis of endometriosis and Covid-19.

Results. In the pathogenesis of endometriosis, the main processes are the reduction of T-cells, cytotoxicity, increasing the production of antibodies and increasing the level of cells such as CD4 + T lymphocytes, antigen-presenting cells. Pathological studies have shown that SARS-CoV-2 causes interstitial edema, monocyte and lymphocyte infiltration, inflammation of intima media, and degenerative changes. Result of the interaction with the virus and antigen-presenting cells is synthesis of bilayer vesicles, which block the receptor's expression, which responsible for tissue identification. As a consequence, the immune system does not recognize them, so it might be a further proliferation and reduced production of interferon1.

One of the viral structures of SARS-CoV-2 is an adhesion glycoprotein (S-protein), which forms homotimers, interacts with angiotensin converting protein 2(ACP 2). In addition virus can directly affect the cells of the organs in which expression of ACP 2 occurs. The expression of this cellular receptor also occurs in endometrial cells Though edometrium is the tissue with low level of angiotensin converting protein 2 expression, in phase of the cycle there is increasing of the expression receptors. Their quantity depends from heredity and age of women. Molecular studies have been found the enhanced expression of ACP 2, which occurs in the follicular phase of the cycle and peaks in the luteal phase. The effect of angiotensin converting protein 2 is also realized



by expanding the vasodilator of angiotensin 2 to angiotensin, a component of RAAS and regulator of blood pressure.

Endometrioid cells are characterized by frequent mutations in the DNA, which leads to dysregulation of mitogen-activated protein kinase (MAP), disrupting of epidermal growth factor, which plays a main role in the processes of neuro- and angiogenesis in the tissues. Increasing one of the enzymes of this signaling pathway, MMP-2/9, can cause the progression of ectopic endometriosis with its subsequent proliferation. Also MAP activate cyclooxygenase(COX), forming of pelvic pain. Level of COX is connected with levels of estrogen and progesterone, their imbalance increases the level of pro-inflammatory cytokines. Therefore, the effect on angiotensin converting protein 2 and the mitogen-activated protein kinase signaling pathway is a potential goal to treatment for patients with endometriosis, who have Covid-19.

Conclusions. The expression of ACP 2 the make conditions for further penetration of the virus into the epithelial and stromal cells of the endometrium, directly and indirectly affecting the cells. And activation of MMP-2/9 leads increasing amount of endometrioid cells. This question needs detailed research to describe the process and identify the risks of abortion in women, who have Covid-19.

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LOW GESTATIONAL WEIGHT AS PUBERTY ABNORMALITIES MARKER OF ADOLESCENT GIRLS, BORN AT TERM

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Introduction. Premature puberty may be associated with perinatal stress. One of the manifestations of which is the birth with a low fetal weight.

Aim. To determine the value of low birth weight (LBW) in puberty onset.

Materials and methods. Girls(n=57), who were seeking gynecology treatment at the Regional Pediatric Clinical Hospital №1, Kharkiv, Ukraine from 2019 to 2020 were asked to take part in a study. Inclusion criteria: voluntary informed consent patients for the study, accurate information about gestational birth weight, belonging to one of



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