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OBESITY IN WOMEN NOT ONLY AFFECTS HER METABOLISM BUT ALSO HER REPRODUCTIVE HEALTH

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Obesity has progressed from a significant health risk to an epidemic in nowadays. Obesity is defined as body mass index (BMI) greater than 30 kg/m². Reproductive age women (20–39 years) have similar obesity rates (36.5%) compared to the general population. Obesity is characterized by increased lipid storage in adipose tissue and other metabolic organs, which leads to cellular lipid toxicity, inflammation and oxidative stress. The result is the development of metabolic dysfunctions like type II diabetes, cardiovascular disease and ultimately, reduced quality and quantity of life. Importantly, the percentages of obese and overweight adults are expected to rise to 50% by 2030.

Obesity in women not only affects her metabolism but also her reproductive health. Specifically, obese women are at increased risk for ovulatory subfertility and anovulatory infertility compared to age-matched lean women. While anovulation can be overcome with ovarian stimulation, obese women have decreased responsiveness to gonadotropins, decreased oocyte retrieval, decreased oocyte quality, reduced rates of pre-implantation embryo development and increased risk for miscarriage compared to their lean counterparts. Current research aims to define obesity-dependent mechanisms that cause these phenotypes in order to prevent or reverse female infertility.

Acute inflammation, which is triggered by tissue damage as a result of an invading pathogen or trauma, activates the release of chemokines by resident innate immune cells. These chemokines attract additional innate immune cells from the systemic circulation. At the same time, resident and infiltrating innate immune cells produce pro-inflammatory cytokines. The cytokines initiate signaling pathways at the cellular level to stimulate the expression of chemokines and cytokines as well as genes that regulate cell death, senescence and survival. The end result is phagocytosis of damaged tissue and subsequent secretion of anti-inflammatory cytokines that regulate wound repair and resolution of the inflammatory response. Chronic inflammation is defined as unregulated and persistent chemokine and cytokine synthesis and secretion. This can be caused by unresolved inflammation after tissue damage. Alternatively, environmental pressures (e.g. allergens), abnormal metabolism (e.g. microbiome changes) or persistent necrotic cell death within a tissue (e.g. obese adipocyte) can induce *de novo* inflammatory responses.

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NEW METHODS OF EARLY PREVENTION OF TOXICOSIS IN PREGNANT WOMEN

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Late toxicosis is one of the most common complications of pregnancy and is accompanied by significant hemodynamic and metabolic disorders, which are largely determined by changes in renal function and water-salt homeostasis. The study of pathogenesis and development of new methods of corrective therapy for late toxicosis of pregnant women is the most important task of modern obstetrics.

Conducted the study of the kidneys function, water and mineral balance in pregnant depends on the form of late toxicosis, and those transformations they undergo under the influence held the therapy. In our study, we examined 377 pregnant women with late toxicosis aged 18-48 years, 221 of which were first-time mothers, and 156 – second-time motherhood. All pregnant women, depending on the lane Eden therapy were divided into two groups: the control assigned 161 pregnant women, who treated the classical scheme, the main - 216 pregnant women, among whom was anomalies targeted to corrective therapy in 153, and maintenance in 63. A study of these indicators was also conducted in 40 virtually healthy non-pregnant women and 48 pregnant women. It was also found that after the main course of effective therapy until discharge from the hospital remained reduced glomerular filtration in the kidneys (84.84 ± 3.34 ml / min), their



excretion of sodium and potassium (respectively 101.6 ± 5.11 and $64, 13 \pm 1.78$ mmol / s) and increased excretion of calcium and magnesium (6.45 ± 0.08 and 4.38 ± 0.21 mmol / s, respectively). Remained underestimated and osmotic pressure of urine, as well as total blood protein (57.2 ± 1.8 g / l) and disturbed - the ratio of protein fractions in the direction of coarse (albumin-globulin ratio - 0.9 ± 0.04). The consequence of underestimation of these data is recurrence of toxicosis, and in more severe forms. Thus, in the control group they were observed in 23.4% discharged after recovery from the hospital.

These facts made it possible to review existing regulations on the management of patients with toxicosis and to outline treatment measures for early and more complete regression of late toxicosis and clinical recovery of pregnant women. The complex was based on antioxidants (vitamin E, ascorbic acid, multivitamins, calcium gluconate, trental, regulated diet and sleep of pregnant women. Maintenance therapy according to the described scheme was performed in 63 pregnant women. The effectiveness of the proposed measures, their pathogenetic nature confirmed by data), glomerular filtration (101.2 ± 3.27 ml / min) and osmotic pressure of urine were normalized by the 14th day of rehabilitation treatment, as well as a tendency to normalization of sodium, potassium, calcium and magnesium excretion, respectively (131.4 ± 3.94). Thus, in pregnant women of the control group the fetus received less calcium (12.32%), inorganic phosphorus (12.39%) and magnesium (7.2%) and more than usual - sodium (11.7%) and potassium (11.9%). In newborns from mothers of the main group in the serum there was an increase in calcium and inorganic phosphorus along with a decrease in sodium and potassium, magnesium concentration did not change compared with the level of these elements in the blood of children of mothers who received treatment according to the classical scheme. It should be noted that the purposeful-corrective and supportive treatment helped to prevent the progression of late toxicosis in severe form, recurrence in women of this group was observed in 3.06%, ie almost 8 times less often than in the control. The clinical outcome of maternal and fetal delivery has also improved significantly. Compared with the control group, the duration of delivery in the main group was reduced by 1.3 times, the frequency of their complicated course and operative termination - 2, pathological blood loss - 3.2, stillbirth and mortality - 2.5 times. On the day of discharge from the hospital, almost two fewer patients with residual manifestations of hypertension, proteinuria, achieved a more complete clinical and functional and biochemical regression of late toxicosis.

The use of targeted and corrective and supportive treatment of late toxicosis of pregnant women is not only justified but also necessary.

Lisova K.M.

ULTRASOUND ASPECTS OF PREGNANCY MISCARRIAGE

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Miscarriage is a serious problem in modern obstetrics, which is one of the most common causes of perinatal loss. That is why the issue of early diagnosis of this pathology occupies an important place. The study of ultrasound changes in pregnant women with miscarriage in the first trimester of pregnancy is of important prognostic value. An ultrasound study of 40 pregnant women with miscarriage was made.

Observations in 11 (27.5%) patients with a history of miscarriage revealed a lag of coccygeal-parietal size (CPS) from the expected values by 6-10 days. At repeated ultrasound scan performed after 2 weeks, in 9 (22.5%) observations there was a positive increase in embryometric parameters and their compliance with gestational age. In 3 (7.5%) pregnant women, the embryo's CPS lagged behind the gestational age by no more than 7 days. At dynamic ultrasonic control and carrying out fetometry fluctuations of biometric parameters of a fetus within normative limits for the term are noted. At the same time, in 7 (17.5%) patients, a progressive decrease in the CPS of the embryo in combination with a decrease in the volume of the ovum (VO) allowed diagnosing growth retardation of the embryo, which was a clinical symptom of miscarriage. Subsequently, these