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**FEATURES OF THE COURSE OF COVID-19 VIRAL INFECTION  
DURING PREGNANCY**

Annotation: In this article highlights of features of the course of covid-19 viral infection during pregnancy.

Key words: pregnancy, Covid – 19, infection, medicine.

Acute human viral infections are widespread diseases and account for about 90% of all infectious pathology. Acute viral diseases of the mother have a toxic effect on the development of the fetus, the further health of the child as a whole. In 2009 WHO has declared an H1N1pnd09 influenza pandemic. The works of many authors show the consequences of the transferred flu for the developing embryo and fetus - these are developmental anomalies, multiple stigmas of dysembriogenesis, death, etc.

In 2019, a new coronavirus infection appeared, the 2019-nCoV virus was first detected by the results of a nucleic acid study in a patient with pneumonia [3]. Cases of mild coronavirus infection in the form of colds are described. The coronavirus family also includes viruses such as SARS-CoV and MERS-CoV. The SARS-CoV virus causes acute respiratory syndrome, MERS-CoV causes Middle East respiratory syndrome. All of them occur in a severe form. COVID-19 belongs to the Beta-CoV B line. The high-risk group for the development of severe forms of COVID-19 consists of elderly people with chronic lung diseases, which include bronchial asthma of moderate and severe severity, diseases of the cardiovascular system, arterial hypertension, diabetes mellitus, immunosuppression, including against the background of cancer treatment, obesity (BMI > 40), chronic kidney diseases, liver diseases, AFS. The appearance of COVID-19 has set new tasks for obstetricians and gynecologists related to the study of the clinical features of the

course of the disease in order to provide the necessary medical care to pregnant women.

Currently, cases of severe coronavirus infection in pregnant women have been described, which often requires hospitalization and treatment of pregnant women in the intensive care unit with artificial lung ventilation. There is evidence that COVID-19 leads to kidney failure and death during pregnancy. Mortality from SARS-CoV virus infection in pregnant women, according to various authors, ranges from 1 to 22.5%. According to WHO, RCOG and RANZCOG, FIGO, (2020), it was found that pregnant women are more susceptible to coronavirus infection as a result of physiological changes in the organs of the respiratory and immune systems. However, to date, the specific risk factors that determine the increased risk of severe disease in pregnant women have not yet been fully studied. In addition, questions about the impact of the COvId-19 virus on the course of pregnancy and its outcome remain debatable. The peculiarities of the clinical course of COVID-19 disease in pregnant women, taking into account gestation, are also insufficiently covered.

The aim of the study was to study the features of the clinical course of COVID-19 viral infection in pregnant women, depending on the gestation period.

The study included 67 pregnant women who underwent COVID-19 at different gestation periods. The age of the women ranged from 16 years to 41 years. All pregnant women were hospitalized in infectious diseases departments of hospitals in Saratov. During the period of hospitalization, an examination was conducted according to the methodological recommendations of the Ministry of Health of the Russian Federation for coronavirus infection in pregnant women. During virological examination of mucus from the pharynx and nose by reverse transcription polymerase chain reaction, COVID-19 virus RNA was detected in all pregnant women.

All pregnant women were divided into 3 groups depending on the gestation period. The first group included 26 pregnant women who had COVID-19 in the first trimester of pregnancy. The second group consisted of 24 pregnant women

who underwent COVID-19 in the second trimester of gestation. The third group included 17 women who contracted COVID-19 in the third trimester of pregnancy.

Excel MS Office and Statistics 6.0 programs were used for statistical analysis. The hypothesis was tested for the normality of the initial data using the Kolmogorov - Smirnov criterion. The results were presented in the form of mean values (M) and standard deviation (SD). When evaluating qualitative indicators, absolute and relative frequencies of observations (n, %) were calculated. Differences between the two average values of the parameters were evaluated by the Student's t-criterion, qualitative - by the Fisher  $\chi^2$  criterion (differences were considered statistically significant at  $p < 0.05$ ).

Results: In pregnant women with COVID-19, somatic pathology was detected in 40 (59.7%) cases (arterial hypertension was found in 12 (17.9%) cases, diabetes mellitus - in 12 (17.9%) cases, exogenous constitutional obesity - in 9 (13.4%) cases, bronchial asthma - in 7 (10.4%) cases, a burdened obstetric and gynecological history was noted in 49 (73.1%) women). Among the COVID-19 patients, first-time births occurred in 38 (56.7%) cases, repeat pregnancies - in 29 (43.3%).

In the first group of COVID-19 patients, concomitant pathology was diagnosed in 14 (58.3%) cases, complicated obstetric and gynecological anamnesis - in 25 (96.1%) cases. In the second group of patients with viral infection, complicated obstetric and gynecological anamnesis occurred in 14 (58.3%) pregnant women, concomitant pathology – the most common background diseases occurred in the third group of examined - 16 (94.1%) pregnant women, complicated obstetric and gynecological anamnesis - in 10 (58.8%) pregnant women. According to the clinical classification, the severity of COVID-19 was determined by the severity of general intoxication. In mild form, the body temperature was normal or subfebrile, the symptoms of intoxication were not pronounced. Among the symptoms of intoxication in the moderate form in pregnant women were: chills, headache, dizziness, muscle and joint pain. Hyperthermia up to 39.5 °C. The mild and moderate form of the course of COVID-

19, according to the methodological recommendations, included pregnant women who either had no signs of pneumonia, or pneumonia had a moderate course. The severe form of viral infection in pregnant women was characterized by acute respiratory failure (BPD more than 30/min, SpO<sub>2</sub>. 93%, RaO<sub>2</sub>/H<sub>2</sub>. 300, foci of diffuse infiltrative changes > 50% of lung tissue that appeared 24-48 hours after the onset of the disease) [2]. The clinical picture in COVID-19 was characterized by the following symptoms (Table 2): decreased sense of smell and taste in 66 (98.5%) cases, sore throat in 59 (88.1%) cases, cough in 21 (31.3%) cases. Among the studied pregnant women, subfebrile temperature was found in 21 (31.3%) women, febrile - in 27 (40.3%), hectic was recorded in 16 (23.9%) patients. Among other clinical signs, 14 women had a feeling of stuffiness in the chest (20.9%), shortness of breath - in 10 (14.9%).

In COVID-19, upper respiratory tract damage was manifested in the form of rhinitis in 44 (65.7%) cases, pharyngitis - in 57 (85.1%) cases, tonsillitis - in 1 (1.5%) pregnant woman. The lesion of the lower respiratory tract was characterized by laryngitis in 1 (1.5%) pregnant women, tracheitis in 6 (9%) patients, bronchitis was more common in 43 (64.2%) and pneumonia in 39 (58.2%) pregnant women. With pneumonia, respiratory insufficiency of 1-11 degrees developed on the 4th-5th day of the disease.

Bronchitis and pneumonia were observed in all gestation periods. In the second trimester, bronchitis was observed in 13 (54.1%) cases, pneumonia - in 9 (37.5%). In the third trimester, bronchitis was detected in 12 (70.5%) cases, pneumonia - in 5 (29.4%) cases. In the first trimester, bronchitis was diagnosed in 14 (53.8%) pregnant women, pneumonia - in 4 (15.3%). Pneumonia was diagnosed less frequently in the first trimester. Among all pregnant women under our supervision, COVID-19 occurred in mild form in 21 (31.3%) cases, in moderate form - in 32 (47.8%) cases, in severe form - in 14 (20.9%) cases (Table 1). In the first trimester, 15 pregnant women had a viral infection in moderate form and 10 pregnant women - in mild form, severe form was detected in 1 (3.8%) pregnant. In the second trimester of pregnancy, 8 (33.3%) women were ill with COVID-19 in

mild form, 14 (58.3%) women in moderate form, and 2 (8.3%) women in severe form. In the third trimester of pregnancy, the moderate form was found in 3 (17.6%) pregnant women, severe - in 11 (64.7%) examined, patients with mild form - 3 (17.6%) pregnant women (Table 3).

Conclusions. Based on the data obtained, it was found that first-time mothers in the I (61.6%) and III (70.6%) trimesters of pregnancy and second-time mothers in the II (62.5%) trimester of gestation with a burdened obstetric and gynecological history (58.3%) and concomitant pathology (41.5%) are more susceptible to COVID-19 infection. In pregnant women with COVID-19, mild and moderate forms of the disease prevailed (31.3 and 47.8%, respectively). The frequency of viral infection in the I (38.8%) and II (35.8%) trimesters of gestation exceeds the frequency in the III (25.3%) trimester. Of the clinical symptoms of COVID-19 viral infection common to all gestation periods are a decrease in sense of smell and taste - 98.5%, sore throat - 85%, fever - 90.9%. Bronchitis and pneumonia were observed at all gestation periods, pneumonia was less often diagnosed in the first trimester.

In all cases, the course of COVID-19 in pregnant women had a favorable outcome, it did not end with lethality. Currently, monitoring of gestation outcomes in patients who have undergone COVID-19 continues.

#### References:

1. Салов И.А., Романовская А.В., Михайлова Е.В. Проблема ОРВИ и гриппа А (H1N1SWIN) в современном акушерстве // Саратовский научно-медицинский журнал. - 2012. - Т. 8, № 2. - С. 218-223.
2. Белокриницкая Т.Е., Шаповалов К.Г. Грипп и беременность. - М.: ГЭОТАР-Медиа, 2016. - 144 с.
3. Liu H., Liu F., Li J., Zhang T. et al. Clinical and CT imaging features of the COVID-19 pneumonia: Focus on pregnant women and children // J Infect. - 2020, Mar 20. pii: S0163-4453(20)30118-3.

4. Амбулаторное обследование и ведение беременных женщин с подозрением или подтвержденным COVID-19. Алгоритм ACOG/ SMFM, 2020.

5. Liu D. et al. Pregnancy and Perinatal Outcomes of Women With Coronavirus Disease (COVID-19) Pneumonia: A Preliminary Analysis // AJR Am J Roentgenol. - 2020, Mar 18. - P. 1-6. DOI: 10.2214/ AJR.20.23072