BRITISH MEDICAL JOURNAL

British Medical Journal
Volume 1, No 2., 2021
Internet address: http://ejournals.id/index.php/bmj
E-mail: info@ejournals.id
Published by British Medical Journal
Issued Bimonthly
3 knoll drive. London. N14 5LU United Kingdom
+44 7542 987055
Chief Editor
Dr. Fiona Egea

Requirements for the authors.
The manuscript authors must provide reliable results of the work done, as well as an objective judgment on the significance of the study. The data underlying the work should be presented accurately, without errors. The work should contain enough details and bibliographic references for possible reproduction. False or knowingly erroneous statements are perceived as unethical behavior and unacceptable.
Authors should make sure that the original work is submitted and, if other authors' works or claims are used, provide appropriate bibliographic references or citations. Plagiarism can exist in many forms - from representing someone else's work as copyright to copying or paraphrasing significant parts of another's work without attribution, as well as claiming one's rights to the results of another's research. Plagiarism in all forms constitutes unethical
acts and is unacceptable. Responsibility for plagiarism is entirely on the shoulders of the authors.
Significant errors in published works. If the author detects significant errors or inaccuracies in the publication, the author must inform the editor of the journal or the publisher about this and interact with them in order to remove the publication as soon as possible or correct errors. If the editor or publisher has received information from a third party that the publication contains significant errors, the author must withdraw the work or correct the errors as soon as possible.

British Medical Journal Volume-1, No 2
10.5281/zenodo.5804435

Path morphological changes in placental tissue in placental tissue of women in labor with covid-19 during pregnancy.

Radjabova Z.A.

Center for the Development of Professional Qualifications of Medical Workers. Tashkent, Uzbekistan.

Abstract. The role of the COVID-19 virus in the genesis of placental insufficiency was investigated. The morphological changes in the placenta of women in labor with COVID-19 during pregnancy were studied in order to identify the histomorphological features of the placental tissue of pregnant women who underwent COVID-19 during pregnancy.

Keywords: coronavirus, COVID-19, pregnancy, placental tissue, placental insufficiency, SARS-CoV-2 virus.

Introduction. The study of the influence of coronavirus infection on the development of perinatal complications in recent years has increased significantly in connection with the coronavirus infection pandemic. Pregnant women do not appear to be at higher risk of contracting the SARS-CoV-2 coronavirus, which causes COVID-19. However, studies show that if infected, pregnant women are at a higher risk of developing severe forms of COVID-19 compared to other women of a similar age. In addition, COVID-19 disease during pregnancy has also been associated with an increased risk of premature birth. Older pregnant women, pregnant women who are overweight or with underlying medical conditions and illnesses such as hypertension (high blood pressure) or diabetes are particularly at risk of serious complications from COVID-19 [1,2,3,7].

To date, there is no reliable data on an increase in the frequency of obstetric pathologies, as well as information on the possible perinatal transmission of the SARS-CoV-2 virus. A probable relationship between COVID-19 in a pregnant woman / woman in labor and the development of fetal distress syndrome, thrombocytopenia and impaired liver function in a newborn has been shown [3,5,6]. According to a study by scientists, COVID-19 causes systemic inflammation of the blood vessels of the lungs (vasculitis) with damage to many organs and systems with no apparent connection with pneumonia. Inflammation affects the endothelium, the inner lining of blood vessels in various organs. Impaired placental development in early pregnancy, associated with systemic damage to the vascular endothelium in COVID-19, can lead to the formation of placental oxidative stress and a number of complications that cause fetoplacental tissue insufficiency.

The objective. The aim of the study was to identify the histomorphological features of the placental tissue of pregnant women who underwent COVID-19 during pregnancy.

Materials and research methods. The study group included pregnant women who underwent COVID-19 during this pregnancy. The average age of the patients was 27.4 ± 6.3 years. To solve the set tasks, placental tissue was taken from 53

women who had undergone COVID-19 of moderate form, who did not have clinical and laboratory signs of a viral infection during childbirth.

Macroscopic and microscopic examinations of 53 placenta samples from postpartum women who underwent moderate COVID-19 during this pregnancy were performed. The degree of damage to the membranes of the villous syncytiotrophoblast was assessed by morphometry. Evaluation was performed using the NIS-Element AR3 image analysis system based on a Nikon ECLIPSE 80i microscope.

Result. Placental tissue samples from 53 women in labor were sent for further morphohistological examination. During histological examination, patients with COVID-19 showed a smaller than expected number of inflammatory diseases of the placenta (umbilical cord, membranes and villous trees) (less than 10%). At the same time, focal forms of willitis, hypercapillarization of terminal villi, and pathological immaturity of the villous tree prevailed. The histological picture of the villous tree in patients with COVID-19 corresponded to moderate and severe branched angiogenesis, which indicates the involvement of compensatory mechanisms and is more often characteristic of intrauterine hypoxia. The number of heart attacks of the villous tree was 42.8%; in 72.1%, intervillous hemorrhages and blood clots, massive deposits of fetal fibrinoid were found. In 63.3% of women in labor, syncyotrophoblastic villi were identified, half of them were dystrophically altered and also embedded in the fetal fibrinoid.

Conclusion. Thus, with a new coronavirus infection, there is a violation of blood flow in the umbilical cord and in the placenta. Blood clots and sludge are formed in the vessels of the chorion and umbilical cord. Pathomorphological features of the state of the placenta indicate that the fetus was in a hypoxic state during pregnancy. As a result of heart attacks, thrombosis of the chorionic tissue, the villous tree was rearranged and fetoplacental insufficiency developed.

Given the higher percentage of hypoxia in childbirth in children from mothers who have undergone, obstetric tactics should be chosen individually, taking into account risk factors and conducting continuous fetal cardiotocography during labor. It is advisable to carry out a pathomorphological examination of samples of placental tissue of women in labor with COVID-19 during pregnancy, in order to clarify the tactics of managing the newborn and predict possible perinatal losses.

References

1. Wong SF, Chow KM, Leung TN, et al. Pregnancy and perinatal outcomes of women with severe acute respiratory syndrome. Am J Obstet Gynecol, 2004, 191(1): 292 - 297.
2. Alfaraj SH, Al-Tawfiq JA, Memish ZA. Middle East respiratory syndrome coronavirus (MERS-CoV) infection during pregnancy: report of two cases & review of the literature. J Microbiol Immunol Infect 2019; 52: 501 - 503.
3. https://www.who.int/news-room/q-a-detail/q-a-on-COVID-19-pregnancy-childbirth-and-breastfeeding.
4. Breslin N, Baptiste C, Gyamfi-Bannerman C, et al. COVID-19 infection among asymptomatic and symptomatic pregnant women: Two weeks of confirmed

presentations to an affiliated pair of New York City hospitals. Am J Obstet Gynecol MFM 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: 1 - 6. doi: 10.2214/AJR.20.23072.
6. Jafari M., Pormohammad A., Sheikh Neshin S.A., Ghorbani S., Bose D., Alimohammadi S., Basirjafari S., Mohammadi M., Rasmussen-Ivey C., Razizadeh M.H., Nouri-Vaskeh M., Zarei M. Clinical characteristics and outcomes of pregnant women with COVID-19 and comparison with control patients: A systematic review and meta-analysis. Rev Med Virol. 2021 Jan 2:e2208. doi: 10.1002/rmv.2208. Epub ahead of print. PMID: 33387448.
7. Collin J, Bystrom E, Carnahan A, Ahrne M. Pregnant and postpartum women with SARS-CoV-2 infection in intensive care in Sweden. Acta Obstet GynecolScand. 2020 May 9. DOI: 10.1111/aogs.13901