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RETROSPECTIVE STUDY OF NEWBORNS AND PREGNANT WOMEN INFECTED WITH COVID -
19 IN KUTAISI, IMERETI REGION

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კოვიდ-19-ით ინფიცირებული ორსულებისა და ახალშობილების რეტროსპექტული ანალიზი
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ქუთაისის უნივერსიტეტი, ა. წერეთლის სახელმწიფო უნივერსიტეტი, ბომონდის საავადმყოფო,
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რეზიუმე

კოვიდ პანდემია მსოფლიოში და მათ შორის საქართველოშიც ტალღებით მიმდინარეობს. ყოველი მომდევნო ტალღა წინაზე უფრო დამაბიანებელია. თუ პირველი და მეორე ტალღების შემთხვევაში ახალშობილთა ავადობა და მოკვდაობა მინიმალური იყო, მომდევნო ტალღების შემთხვევაში გაიზარდა ორსულთა და ახალშობილთა დაინფიცირების მაჩვენებელი. გამოჩნდა დედა-ახალშობილის სიკვდილობის შემთხვევებიც. გემოლანიშნულიდან გამომდინარე, კვლევის მიზნად დავისახეთ იმერეთის რეგიონში კოვიდ 19-ით ინფიცირებული ორსულების და ახალშობილების ისტორიების რეტროსპექტული ანალიზი. დასახული მიზნის მისაღწევად, კვლევაში გავაერთიანეთ 27 ორსული/მშობიარე (20 დან - 45 წლის ასაკის) და 31 ახალშობილი (0 დან ერთ თვემდე ასაკის, 18 ქალი და 13 ვაჟი), რომლებმაც გაიარეს სტაციონარული მკურნალობა 01.08.2020 – 01.12.2021 დროის მონაკვეთში, იმერეთის რეგიონის კოვიდ-კლინიკა „ბომონდის“ ბაზაზე (ქუთაისი, საქართველო). კვლევის მეთოდს წარმოადგენდა გემოლანიშნული პაციენტების, კერძოდ დედების გამოკითხვა სპეციალურად შემუშავებული ანკეტით და ავადმყოფობის ისტორიების რეტროსპექტული ანალიზი. მიღებული შედეგების ანალიზმა ცხადყო, რომ ორსულთა უმეტესობა - 23 (88%) პაციენტი ფლობდა კოვიდ სანინაალმდეგო ვაქცინაციაზე ექიმისგან ინფორმაციას, კოვიდ ინფექცია გადატანილი ჰქონდა 11 (40%) პაციენტს, კოვიდსანინაარმდეგო ვაქცინით ვაქცინირებული იყო მხოლოდ 4 (14%) პაციენტი. დანარჩენმა უარი განაცხადა აცრაზე. ყველა კოვიდ დადებითი ორსულის ზოგადი მდგომარეობა იყო საშუალო სიმძიმის. ნაყოფი-დედის რისკების გაანალიზებით, 21 (79%) კოვიდ დადებით ორსულთან საჭირო გახდა საკეისრო კვეთის ჩატარება, ხოლო 6-მა (21%) ორსულმა იმშობიარა ფიზიოლოგიურად, სამეანო გინეკოლოგიური ჩარევების გარეშე.

ორმა ორსულმა იმშობიარა გესტაციის 24-25 კვირაზე. ორივე ნაადრევი მშობიარობის შედეგად მიღებული იყო დღენაკლული, მკვდრადშობილი ახალშობილები. სხვა დანარჩენ შემთხვევაში ახალშობილი დაიბადა კოვიდ უარყოფითი, ღროული, შესაბამისი ანთოპომეტრული პარამეტრებით. კოვიდ ინფექციით დაავადებული 27 ორსული მკურნალობდა კოვიდ სტაციონარში, მათ უმეტესობას არ დაჭირვებია რესპირატორული მხარდაჭერა. 7-10 დღიანი მკურნალობის კურსის შემდეგ 25 პაციენტი გაენერა ბინაზე ჯანმრთელი. მხოლოდ 2 (7%) შემთხვევაში დაფიქსირდა მძიმედ მიმდინარე კოვიდ-ინფექცია, რომელიც დასრულდა ლეტალური გამოსავალით. ასევე, პარალელურად, კოვიდ ინფიცირებული ახალშობილების ისტორიების კვლევამ ჩვენ შემთხვევაში დაადასტურა, რომ კოვიდ ინფექციამ არ გადალახა პლაცენტარული ბარიერი და დადგინდა, რომ ახალშობილები ავადდებიან პოსტნატალურად - პერსონალისგან ან მშობლებისგან. მათი კოვიდ ინფექციის გამოსავალი 31-ვე შემთხვევაში იყო დადებითი. ამდენად, კოვიდ ინფიცირებულ დედათა და ახალშობილთა კოვიდ სტატისტიკა და გამოსავალი იმერეთის რეგიონში ძირითადად კეთილსაიმედოა. თუმცა, ორსულთა მეთვალყურეობა და ხანგრძლივი მონიტორინგი ჯანმრთელი ახალშობილის დაბადების აუცილებელი პირობაა.

Introduction: Corona virus CAPC-CoV-2, (COVID-19) was first reported in December 2019 in Wuhan, China. In a few months, disease spread all over the world and in March of 2020 it was declared a world pandemic by the World Health Organization. Despite the fact that at the early stage of spread of

the virus in 2019 was considered rare infection in children, the numbers of infection significantly increased. Nowadays, Polymerase chain reaction (PT-PCR) is the gold standard for diagnosing COVID-19 infection [12].

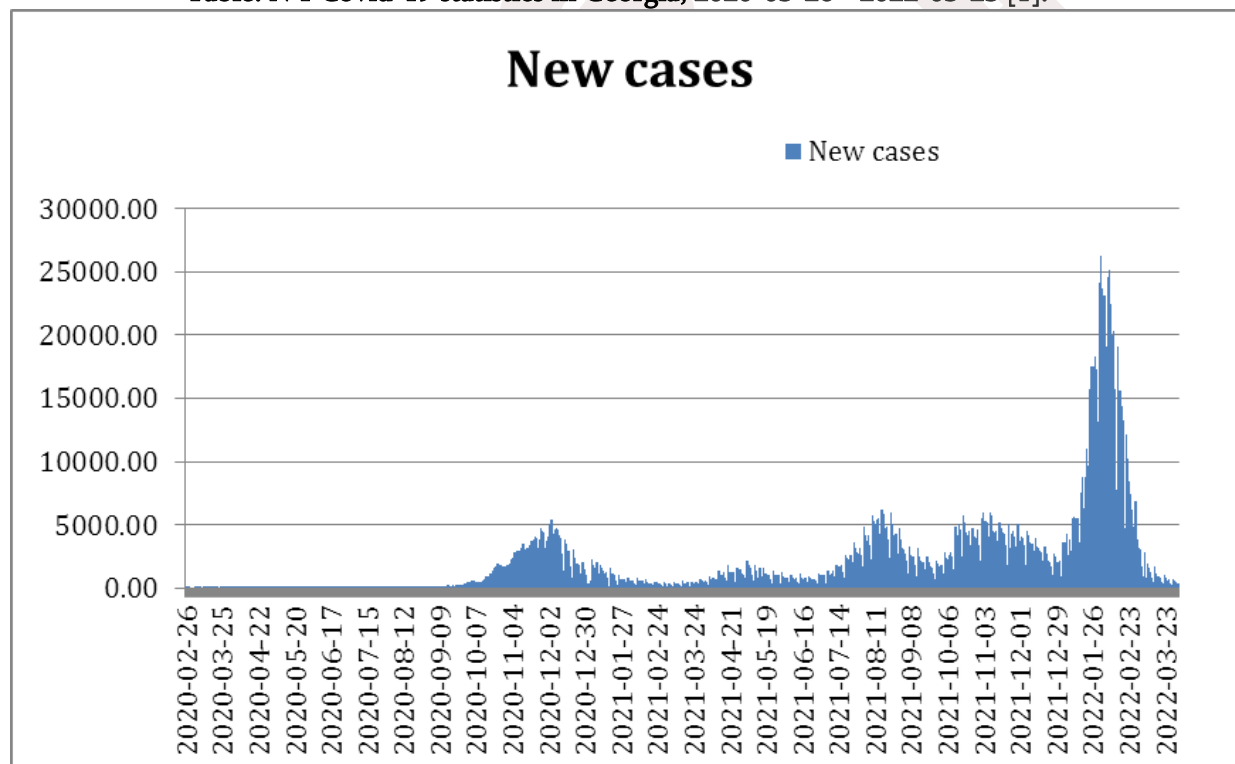
In Georgia the first case of COVID-19 was confirmed on February 26, 2020. In November 2020, a British variant called Alpha was first recorded in Georgia. Alpha variant has almost completely replaced most of the current circulating SARS-CoV-2 variants in the country. At the end of May 2021, a single case of an Indian strain called Delta variant appeared in the country, which has the ability to spread even faster due to mutations in the S gene sequence. By August 2021 this variant was already fully dominant compared to all the other variants previously prevalent. In addition, the so-called Delta + variant soon appeared which is constantly changing and continues to spread in different countries with different mutations.

As of October 1, 2021, among infected 10% are children age 0 - 15. 12% adults and young people age from 15 - 24, 78% people from age 60 and above. Number of deaths from COVID-19 is 8976, with a lethality rate of 1.46%.

From the beginning of the COVID-19 pandemic to October 1, 2021, 85,345 pregnant women were registered in Georgia for antenatal care: 45,516 in 2020 -, 38,345 in 2021. Total number of confirmed cases of COVID-19 in pregnant women was 7 338 (Percentage of infection of pregnant women 8.6%). In 2020 - 3 304 (7.3% from the number of pregnant women registered in 2020)

Of the total number of pregnant women infected with COVID-19, the lethal outcome was recorded in 17 cases, none of which were vaccinated, the lethality rate - 0.23%; in 2020 - 1 case lethality rate - 0.03%. In 2021 - 16 cases, lethality rate - 0.4% [1].

Table: N 1 Covid-19 statistics in Georgia, 2020-03-26 - 2022-03-23 [1].



The COVID-19 pandemic is appearing in waves. Each subsequent wave was more damaging to the previous. If the morbidity and mortality of newborns were minimal in the case of the first and second waves, the rate of infection in pregnant women and newborns increased in the case of subsequent waves. There has also been a case of neonatal death [6].

While physiological, mechanical, and immunological changes in pregnancy may affect a pregnant woman's intake of COVID-19, the solution is complicated by the pregnant woman's older age, obesity and underlying diseases such as, chronic lung disease, cirrhotic hypertension, and pre-gestational diabetes. Severe disease was associated with preeclampsia, preterm labor, gestational diabetes among pregnant women with COVID-19, and childbirth with low-weight gestational infants is more common in individuals with mild disease [11].

Pandemic-related disorders increase neonatal mortality, but caring for sick newborns is relatively new to global health. Being together of mothers and newborns in the postnatal period is a key aspect of comprehensive care and is particularly at risk during pandemics, including for young gestational infants in need of so-called "mother kangaroo" (KMC) care [13].

COVID-19 screenings are performed on mothers and their newborns on the first day of birth and on the day of disease manifestation, the analysis of this information will allow us to determine the ways of disease transmission.

Even if future studies confirm vertical transmission, this will not be an indication for cesarean section as it will increase maternal risk and is unlikely to improve neonatal morbidity rates as COVID-19 infection in infants is mild [9, 5].

Material and Methods: To sum up all the above mentioned, we set the goal to research history of Retrospective analysis in Covid-19 infected pregnancies and newborns in the region of Imereti. In the study we combined 27 pregnant/postpartum (20 to 45 years old) and 31 newborns (0 to one month old, 18 female and 13 male), who have undergone inpatient treatment 01.08.2021-01.12.2021 in Imereti region COVID clinic on the basis of "Bomondi" (Kutaisi, Georgia.) Research methodology consisted of surveys of abovementioned patients, specifically mothers, with specifically developed questionnaires and co-diagnosed maternal and infant morbidity retrospective analysis of stories.

Results and Review. The result of the analysis revealed that the majority of pregnant women 23 (88%) received information about COVID vaccination from doctors. 11 (40%) of patients have recovered from COVID-19 infection, out of them 4 (14%) were vaccinated against COVID infection. Main reason for not vaccinating was personal reasons.

Analysis of histories revealed that 22 (81%) pregnant women, with the disease, gestational age, with mild symptoms from their homes 5 (19%) pregnant women from other clinics were admitted to the clinic by ambulance in "Bomondi" clinic. On the bases of COVID positive test they were placed in the COVID section. Their gestational age of pregnancies ranged from 20 to 40. Analysis of histories revealed that all 27 pregnant women general condition was moderate severity. Fetal analysis of maternal risk, 21 (79%) required cesarean section in the patient and 6 (21%) in the pregnant women gave birth physiologically, without obstetric-gynecological interventions. Out of the above only two of these pregnancies were reported stillbirth due to premature birth at 24-25 weeks. In other cases, newborns were born COVID-19 negative with timely, relevant anthropometric parameters. We also note that out of 27 pregnant women only 2 (7%) were first-time mothers, 16 (59%) were second-time pregnancies and third childbirth was 9 (33%). It is also notable that mother's rhesus group of ABO system examined, group O blood was 15 (56%), group A blood 8 (29%) and group B blood 4 (15%). As for the rhesus factor 23 (85%) gave birth to Rh+ and 4 (15%) to Rh-. Pregnant women had none of the accompanying diseases and only 4 (14%) were vaccinated with 2 doses. These 27 pregnant women were treated for COVID infection. Only 2 (7%) needed resuscitation and in both cases (7%) the case ended with resuscitation. While a CT study confirmed COVID-19 pneumonia in 21 (77%) pregnant women with a CT score of 4-9, and in 6 (23%) patients with a score of 1-17. After 7-10 days of treatment, 25 (92%) patients were discharged home.

Also, the study of COVID-infected newborns, including our cases, also confirmed that COVID infection does not go beyond placental barrier and newborns become infected antenatal or from staff, or parents. Above mentioned is confirmed by the information that the age of newborns brought to the clinic by ambulance was between 6 and 26 days. It is also noteworthy that 5 (92%) patients applied to the hospital from homes and only 6 (18%) were transferred from another clinic with a COVID-positive test. According to the blood rhesus factor in 29 (93%) newborns only 2 were (17%) rhesus negative. Newborns were given blood monitoring analyzes in dynamics and compliance with treatment by the standards. All of them were discharged home healthy.

Studies have shown that infected women in the Imereti region 86% of women were unvaccinated out of which 7% gave birth to a stillborn fetus at the age of 20-25. The rest of 93% were 37-40 weeks pregnant with timely live births. With moderate severity of COVID infection 7% with maternal mortality, thus maternal neonatal covariance statistics in the Imereti region, it is noteworthy, however, that their health is monitored and prolonged monitoring is a necessary condition.

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19 IN KUTAISI, IMERETI REGION**

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SUMMARY

COVID -19 pandemic in the world, as well as Georgia, is progressing through waves and each subsequent wave is more damaging. Maternal-newborn death cases appeared as well. Thus, the study

targeted retrospective analysis of neonatal histories of COVID-19 infected pregnant women and newborns. To achieve the goal, we included 27 pregnant women in the study (aged 20 to 45 years old) and 31 newborns (aged 0 to one month old, 18 female and 13 male) who have passed inpatient treatment from 01.08.2021 to 01.12.2021. In the COVID-clinic of the region on the basis of "Bomondi" (Kutaisi, Imereti, Georgia) the research methodology included surveying above mentioned patients, namely mothers with a specially designed questionnaire and medical history retrospective analysis. Analysis of the results revealed that majority of the pregnant women 23 (88%) got information about COVID vaccination from their doctors. COVID infection was transmitted to 11 (40%) patients. Only 4 (14%) patients were vaccinated against COVID -19. The rest were not vaccinated due to personal reasons. Out of all 27 pregnant women tested COVID positive, general condition was of moderate severity. After risk analysis 21 (79%) of patients required C-section and 6 (21%) pregnant women gave birth physiologically, without gynecological interventions. Only two of these women suffered stillbirth due to premature birth at 24-25 weeks. In all other cases the newborns were born COVID negative with timely, appropriate anthropometric parameters with COVID-19 infection these women were being treated in the section of COVID. After 7-10 days of treatment, 25 (93%) of patients were discharged home healthy, only 2 (7) ended lethally. Also, in parallel with the study of newborns histories it was confirmed that COVID infection did not cross the placental barrier and it has been found that infants become ill postnatal or from staff or patients. The solution to their covalent infection in all 31 cases was positive.

Therefore Covid-19 infected mothers-newborns COVID-statistics and solutions in the Imereti region are looking positive, although their health supervision and long-term monitoring is a must.

Keywords: SARS-CoV-2, COVID-19, vertical transmission, fetal death, fetus, maternal death, newborn, postnatal infection, pregnancy