

Maternal and Perinatal Outcome on Pregnancy with Covid-19 Infection at Dr. Wahidin Sudirohusodo Hospital Makassar During the Period of April-July 2020

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Abstract

Objective: The aims of this research is to notice maternal and perinatal outcome on pregnant women with covid-19 infection at Dr. Wahidin Sudirohusodo Hospital During the Period of April-July 2020.

Method: This research is using descriptive method which is by taking data from the pregnant women with covid-19 infection at Dr. Wahidin Sudirohusodo Hospital during the period of April 1st – July 12th 2020. The data covers the age, gestational age, amount of parity, symptoms, pregnancy complication, supportive examination results such as neutrophil score, limfosit, CT-scan Thorax, method of delivery, baby's APGAR score, covid baby status, maternal death, perinatal death.

Results: There are 26 pregnant patients characteristic subjects with covid-19 infection, mostly 20-35 years old, term gestational (>37 weeks), multiparity, low educational background, unemployed, mostly with no symptoms, increasing limfosit/neutrophil ratio rate >3,13. Good maternal outcome, there are no maternal death in this research. Perinatal outcome from 24 babies, 5 babies are confirmed covid-19 positive and all are in good condition.

Conclusion: This research concludes good maternal and perinatal outcome.

Keywords: *Maternal Outcome, Perinatal Outcome.*

Introduction

Global pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) or Coronavirus Disease 2019 (COVID-19) has developed by the increased death rate, which also assures the identified

vulnerable population in the society. From the data of Covid-19 Acceleration Handling Task Force in Indonesia by July 12th 2020, there are 75.699 people confirmed to be positive, 36.638 people confirmed to be recovered, and 3.606 people confirmed to be departed. In the first research, which described the clinical characteristic and investigate the possibility of SARS-CoV-2 vertical transmission on nine pregnant women with Covid-19 that have been confirmed by laboratory examination, showed that the effect of COVID-19 on pregnant women are similar to adult women who are not pregnant and there are no evidence of vertical transmission because SARS-CoV-2 is not detected by amniotic fluid, umbilical cord blood and neonatal throat swab from the six cases.¹

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To date, the largest series reporting pregnancy and neonatal outcomes, with 99 COVID-19 infected pregnant women, shows that having COVID-19 during pregnancy are not related to the increase of damaging risks such as spontaneous premature birth. Among the 100 neonatus delivered by these women, not even one is infected by SARS-CoV-2.²Based on very rare data until today, conflicting evidence from nucleic acid based assays and anti body test on neonatus delivered by mother with Covid-19 has appeared to cause further controversy for the vertical transmission risk during pregnancy.^{1,2}Due to the foetus and the newborns, innate and adaptive immune system immaturity make them susceptible to infection.³Factors dysregulations such as cytokines and cascades May have damaging consequences on the developing and brain function. Therefore, not being able to notify whether the infection agent is able to infect newborns with vertical transmission is interesting.⁴

Pregnant women and their babies need to be evaluate as potentially risky group in today's COVID-19 pandemic. From gathered limited information about this novel coronavirus and drastically increasing disease burden, it is necessary for scientific information about this disease to be Shared briefly and practically. Result data of infected women and pregnant women perinatal with SARS-CoV-2 are limited to some reports and case series. The size of small samples and the findings are vary. The changes of policies in countries hit by pandemic, developing clinical management guidance, and uncertainty about the reliability of the result make the reports difficult to be interpreted. Therefore, this research is conducted so it is possible to notice maternal and perinatal external result on pregnancies with COVID-19.

Method

This research is using descriptive method by taking the data on pregnant women infected by Covid-19 at Dr. Wahidin Sudirohusodo General Hospital during the period of April 1st – July 12th 2020. The data covers the age, gestational age, amount of parity, symptoms, pregnancy complication, supportive examination result such as neutrofil ratio, limfosit, CT-scan Thorax, method of delivery, baby's APGAR score, baby's covid status, maternal death, perinatal death.

Result

During the period of April 1st – July 12th 2020, there were 26 covid-19 infected pregnancy cases obtained at

Dr. Wahidin Sudirohusodo Hospital. Table 1 shows that the characteristic of pregnant patients with covid-19 are to those with the age of 20-35 years old, which are 20 cases (76.9%). On the age <20 years old and >35 years old, 6 cases were found (23.1%). In terms of the gestational age, the most pregnancy cases with covid-19 are at the aterm gestational age of (>37 weeks) are 22 cases (84.6%). There are 4 cases (15.4%) in cases with Preterm pregnancy (<37 weeks). From the amount of parity, the most cases happen to be on the multipara, which are 17 people (65.4%). And on the nullipara there are 9 cases (34.6%). Most of the subject in this research have low educational background, which are 15 cases (57.7%) and unemployed subjects, which are 17 cases (65.4%).

Table 1. Research Subject Characteristic

| Characteristic | Pregnancy with Covid-19 | |
|-------------------------------|-------------------------|------|
| | N | % |
| Age | | |
| 20-35 years old | 20 | 76.9 |
| <20/> 35 years old | 6 | 23.1 |
| Gestational Age | | |
| < 37 weeks | 4 | 15.4 |
| > 37 weeks | 22 | 84.6 |
| Parity | | |
| Nulliparity | 9 | 34.6 |
| Multiparity | 17 | 65.4 |
| Working Woman | | |
| Well Educated | 11 | 42.3 |
| Lower Educational Background | 15 | 57.7 |
| Occupation | | |
| Employed | 9 | 34.6 |
| Unemployed | 17 | 65.4 |
| Covid-19 Symptom | | |
| Yes | 8 | 30.8 |
| No | 18 | 69.2 |
| Pregnancy Complication | | |
| Chronic Hypertension | 1 | 3.84 |
| PEB | 4 | 15.4 |
| Gestasional DM | 1 | 3.84 |
| SLE | 1 | 3.84 |
| Hyperthyroid | 1 | 3.84 |
| Hepatitis B | 1 | 3.84 |
| No complication | 17 | 65.4 |
| Total | 26 | 100 |

Table 2 shows pregnancy case with covid-19 taken from supportive examination. Rated parameter is the limfositneutrofil ratio and Thorax CT-scan. The cut off

point of neutrofil and limfosit ratio used in this resaerch is 3.13. In the research subject it is known that limfosit and neutrofil ratio generally increased >3.13 which are 7 cases (34.6%). From the Thorax CT-scan done by the research subjects, there are 6 cases (23.1%) with pneumonia, but caused no death on the mothers and there are 20 cases (76.9%) with no radiological disorder or also know as normal.

Table 2. Laboratory and Radiologic Findings on Pregnancy with Covid-19 at Dr. Wahidin Sudirohusodo Hospital during the period of April-July 2020

| Laboratory and Radiologic Findings | Pregnancy with Covid-19 | |
|---|-------------------------|------------|
| | N | % |
| Neutrofil Limfosit Ratio (NLR) < 3,13 > 3,13 | 7 | 34.6 |
| | 19 | 65.4 |
| CT chest Pneumonia Normal | 6 | 23.1 |
| | 20 | 76.9 |
| Total | 26 | 100 |

From Table 3, it is known that maternal external result is taken from the delivery method, most of the method are by cesarean section which are 17 cases (70.8%). From those with cesarean section, 11 of them come with Obstetric Medical indication, which are previous post cesarean section (8; 47.1%), severe preeclampsia with eclampsia impending sign (2; 11.8%), and macrosomia (1; 5.9%). There are also other cases like 1 case of abortus at the gestational age of 12 weeks and 1 conservative treatment case for dypepsia. There are 6 cases (35.3%) of cesarean section for covid-19 infection.

Table 3. Maternal Outcome on Pregnancy with Covid-19 at Dr. Wahidin Sudirohusodo Hospital during the period of April-July 2020

| Maternal Outcome | Pregnancy with Covid-19 | |
|---|-------------------------|------------|
| | N | % |
| Mode of delivery Vaginal delivery Caesarean delivery | 7 | 29.2 |
| | 17 | 70.8 |
| Outcome Life Died | 26 | 100 |
| | 0 | 0 |
| Total | 26 | 100 |

Table 4 shows that perinatal external result of pregnancy with covid-19. From 24 baby external result, there are 5 babies (20.8%) confirmed to have positive covid-19 and normal APGAR score. 1 baby (4.25%) was born with severe asfixia from mother with severe preeclampsia pregannacy complication But with negative status of Covid-19. And there were 16 babies (66.7%) born with negative covid status.

Table 4. Perinatal Outcome of Pregnancy with Covid-19 at Dr. Wahidin Sudirohusodo Hospital during the period of April-July 2020

| Perinatal Outcome | Covid-19 Status of the Baby | |
|--|-----------------------------|------------|
| | Positive | Negative |
| APGAR Score Normal Asphyxia IUFD | 5 (20.8%) | 15 (62.5%) |
| | 0 (0%) | 1 (4.2%) |
| | 0 (0%) | 3 (12.5%) |
| Outcome Life Died | 5 (20,8%) | 16 (66.7%) |
| | 0 (0%) | 3 (12.5%) |
| | | |
| Total | 5 | 19 |

Discussion

Pregnancy cases with covid-19 during the period of April 1st- July 12th 2020 at Dr. Wahidin Sudirohusodo General Hospital are generally patients with no symptoms (OTG), 18 people (69.2%). This findings suit to the research in China that there were 23.3% of pregnant women with Covid-19 that showed no symptoms during the peak of the pandemic in the Province of Hubei, China.² There are also 8 patients with symptoms, the experienced symptoms of coughing (2; 7.72%), coughing followed with the experience of Hard breathing (4; 15.4%), anosmia (1; 3.84%), diarrhea(1; 3.84%). This goes along with the research in China that indicates that infected patients' clinical characteristic during their pregnancies show similarity with other infected adult who are not pregnant.² From the total of 26 cases, there were 9 patients (34.6%) that came with complication complaints during their pregnancies. 4 cases (15.4%) of severe preeclampsia, 1 case (3.84%) of chronic hypertension, 1 case (3.84%) of hypertiroid, and 1 case (3.84%) of B hepatitis. All pregnancy complications are not related to covid-19. The increasing of the NLR in this research is in line with the research conducted in Spain, where the NLR is increasing on pregnant women infected by Covid-19 and decreasing after clinical condition treatment.⁵ The research in China

showed that patients with covid-19 have increased value of neutrophil and decreased value of limfosit on severe phase.⁶The Thorax CT-scan examination did not show radiological disorder or also know as normal. On the contrary, in every research in China, they found radiological disorders on the Thorax CT-scan, which is 96.3 & of Ground glass opacity.²

Maternal outcome pregnancy with covid-19 showed all subjects in the research were in good condition and discharged after two swab test and confirmed to be negative. This suits the research that shows majority of pregnant women with Covid-19 on their third trimester and deliver the babies by cesarean section, showed no maternal death. On a contrary, pregnant women by respiratory infection virus like H1N1 reported to have 4-5 bigger possibilities to develop into severe disease compare to non pregnant women on common population.⁷In this research, there are 3 babies (12.5%) who passed away from mothers who experienced fetal death in the womb (KJDR). External perinatal of 5 babies that confirmed to be positive are in good condition. This also suits the research in Cina which perinatal outcome is good with mothers infected by Covid-19.²

Conclusion

There are characteristics of 26 pregnant patients infected by Covid-19, where most of them are 20-35 years old, aterm gestational age of (>37 weeks), multiparity, low educational background, unemployed, most of them show no symptoms, increasing rate of neutrophil/limfosit > 3.13. Good maternal external result, no maternal death in this research. Perinatal external result from 24 babies, 5 of them are confirmed to be covid-19 positive and all of them are in good condition.

Ethical Clearance: No ethical approval is needed.

Source of Funding: Self

Conflict of Interest: Nil

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