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PHILIPPINE OBSTETRICAL AND GYNECOLOGICAL SOCIETY (Foundation), INC.
PHILIPPINE PEDIATRIC SOCIETY

**PHILIPPINE INFECTIOUS DISEASES SOCIETY FOR OBSTETRICS AND GYNECOLOGY * PHILIPPINE SOCIETY OF MATERNAL AND FETAL MEDICINE *
PHILIPPINE SOCIETY OF NEWBORN MEDICINE * PEDIATRIC INFECTIOUS DISEASE SOCIETY OF THE PHILIPPINES**

APPROACH TO THE MANAGEMENT OF COVID-19 IN PREGNANCY AND THE NEWBORN

Persons Under Monitoring (PUM)
See attached Triage Algorithm

Confirmed COVID-19 Patient

Patient Under Investigation (PUI)
See attached Triage Algorithm

ASSESS OBSTETRIC CONDITION

IMMINENT DELIVERY

- ADMIT to a designated isolation area (Tent / Emergency Room / OR-DR)
- Identify a **COVID-19 Delivery Team***
- Require all personnel in attendance to wear the appropriate PPE**
- Require all transport personnel to wear appropriate PPE to be removed once patient has been transferred
- Deliver by NSD, assisted delivery or CS to be attended by COVID-19 Delivery Team
- Do early cord clamping
- Institute appropriate neonatal resuscitation measures as necessary
- Render standard newborn care
- Obtain / verify if the naso/oropharyngeal swab specimens were collected

IN LABOR

TERM

- Do intrapartal monitoring using EFM
- Consider to expedite delivery prior to onset of severe maternal respiratory condition or fetal distress
- Require all personnel in contact with the patient to wear appropriate PPE

PRETERM

Conservative Management

- Initiate use of antenatal corticosteroids. Refer to a specialist / subspecialist as necessary.
- Avoid tocolysis for confirmed COVID-19 patients with spontaneous PTL in an attempt to delay delivery to administer antenatal corticosteroids
- Require all personnel in contact with the patient to wear appropriate PPE
- Observe strict infection prevention and control measures

For Delivery

NOT IN LABOR

MOTHER WITH OTHER OBSTETRIC AND/OR MEDICAL INDICATIONS FOR ADMISSION

- ADMIT patient to designated isolation room
- Require all personnel in contact with the patient to wear appropriate PPE
- Observe strict infection prevention and control measures
- Do antenatal surveillance *** every 2-4 weeks
- Provide antenatal counselling on birth plan, care of the newborn, feeding options, potential risks of transmission and precautionary measures

STABLE MATERNAL AND FETAL CONDITION

- Require all personnel in contact with the patient to wear appropriate PPE
- Test **mild PUI** cases and send for home quarantine with proper instructions and counselling
- Send **mild cases of confirmed COVID-19** for home quarantine with proper instructions and counselling
- Coordinate with RESU for strict monitoring and surveillance
- Do antenatal surveillance *** every 2-4 weeks

MOTHER WITH SEVERE OR CRITICAL RESPIRATORY CONDITION

- ADMIT patient to designated isolation room
- Require all personnel in contact with the patient to wear appropriate PPE
- Manage medical condition accordingly with specialist / subspecialist
- Document maternal status with CT-scan or CXR with abdominal shield
- Document fetal status by FHR monitoring once daily or more frequent as indicated
- Consider fetal lung maturation by giving ACS for non-critically ill patients
- For viable pregnancies, consider induction of labor prior to onset of severe respiratory condition
- Consider assisted vaginal delivery to shorten the second stage of labor in a symptomatic woman in exhaustion or hypoxic condition
- Perform cesarean delivery if critical or in severe respiratory failure such as septic shock, acute organ failure or fetal distress
- Do early cord clamping
- Institute appropriate neonatal resuscitation measures as necessary
- Render standard newborn care

NEONATAL CARE

- Separate the baby from the mother temporarily in different isolation rooms until both COVID-19 test results are available and are negative. If testing was not done, separate them until 14 days from resolution of symptoms or 14 days from the last significant exposure if the mother is asymptomatic (PUM).
- Test the baby immediately after birth if mother is COVID-19 positive. Test the baby as well, if the PUI mother becomes positive after delivery. If the PUI mother is negative and the baby is asymptomatic, may not test the baby.
- Offer expressed breastmilk with strict adherence to sterile process and handling. If the mother opts to breastfeed, ensure strict compliance to standard and droplet precautions throughout breastfeeding.
- Do rooming-in only when both COVID-19 test results are positive. Advise mothers with respiratory symptoms to wear mask properly. Practice strict hand hygiene at all times.
- Manage unstable baby accordingly with isolation precautions. Refer to a specialist / subspecialist as necessary.
- Do routine hearing and newborn screening tests prior to discharge when feasible.
- Discharge early once stable.

POSTPARTUM CARE

- Monitor postpartum patient in the same isolation area by the same COVID-19 Delivery Team
- Discharge early once stable, if mild case but coordinate with RESU for monitoring and surveillance
- Transfer post CS patient to designated isolation room
- Require all transport personnel to wear appropriate PPE to be removed once patient has been transferred

Legend: *COVID-19 – Corona Virus Disease 2019; PUI – Patient Under Investigation; PUM – Persons Under Monitoring; PPE – Personal Protective Equipment; ACS – Antenatal Corticosteroids; PTL – Preterm Labor; RESU – Regional Epidemiology and Surveillance Unit*

* **COVID-19 Delivery Team** – Obstetrician (1-2); Pediatrician (1-2); Anesthesiologist (1); Nurse (1-2)

** **Appropriate Personal Protective Equipment** – **1.** Well-fitting N95 mask (fit-tested)**; 2.** Eye protection (goggles or face shield)**; 3.** Impermeable gown; **4.** Surgical gloves**; 5.** Shoe cover**.** The reader is referred to the Guidelines on Infection Control for COVID-19.

*** **Antenatal Surveillance** – Growth monitoring, AFI with UmA doppler; Detailed anatomic scan at 18-24 weeks for infection acquired during 1st and early 2nd trimester

***Disclaimer*:** **This guideline was formulated through a collaborative effort from the above professional societies mainly to guide clinicians who will be handling COVID-19 in this special population. The recommendations were made after careful review of currently available limited published data with the consensus of a panel of experts. We will be updating this guideline accordingly as more information becomes available as this disease is still evolving. This can be adopted and modified based on your institution's capacity and standing policies.**

References:

1. Academy of Breastfeeding Medicine. ABM STATEMENT ON CORONAVIRUS 2019 (COVID- 19) March 10, 2020. (Retrieved from https://www.bfmed.org/abm-statement-coronavirus 12 March 2020)
2. Alfaraj SH, Al-Tawfiq JA, Memish ZA. Middle East Respiratory Syndrome Coronavirus (MERSCoV) infection during pregnancy: Report of two cases & review of the literature. J Microbiol Immunol Infect 2019 Jun;52(3):501-3.
3. American College of Obstetricians and Gynecologists Practice Advisory: Novel Coronavirus 2019 (COVID-19) March 13, 2020
4. Centers for Disease Control and Prevention. Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings. 2020. (Retrieved from: https://www.cdc.gov/coronavirus/2019ncov/hcp/ 12 March 2020)
5. Chen H, Guo J, Wang C, Luo F, Yu X, Zhang W et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. Lancet. 2020;395(10226):809-15. Epub 2020/03/11. doi: 10.1016/S0140-6736(20)30360-3. PubMed PMID: 32151335 (Retrieved 12 March 2020)
6. Chen Y, Peng H, Wang L, Zhao Y, Zeng L, Gao H et al. Infants Born to Mothers With a New Coronavirus (COVID-19). Front. Pediatr., 16 March 2020. https://doi.org/10.3389/fped.2020.00104 (Retrieved 17 March 2020)
7. Dotters-Katz S & Hughes BL. Society for Maternal Fetal Medicine. Coronavirus (COVID-19) and Pregnancy: What Maternal-Fetal Medicine Subspecialists Need to Know 13 March 2020 (Retrieved from: https://s3.amazonaws.com/cdn.smfm.org/media/2262/COVID19_PDF.pdf 12 March 2020)
8. Guillaume Favre, et al, Guidelines for pregnant women with suspectedSARS-CoV-2 Infection, www.thelancet.com, March 3, 2020, DOI: https://doi.org/10.1016/S1437-3099(20)30157-2.
9. Huaping Zhu, et al, Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia, Transl Pediatr. 2020 Feb; 9(1): 51-60; doi: 10.21037/tp.2020.02.06.
10. Huijun Chen, et al, Clinical characteristics and intrauterine vertical transmission potential of COVID-19 Infection in nine pregnant women: a retrospective review of medical records, www.thelancet.com Vol 395, March 7, 2020.
11. Japanese Society for Neonatal Health and Development. Recommended measures to a new type coronavirus infection in newborn infants. Feb 28, 2020.
12. Korean Society of Neonate (KSN). Coronavirus Infection-19 Neonatal Care Born from Confirmed or Suspected Patients Manual for Neonates. March 4, 2020.
13. Lu Qi, MD, PhD and Shi Yuan, MD, PhD. Coronavirus disease (COVID-19) and neonate: What neonatologist need to know, Journal of Medical Virology, February 26, 2020.
14. Na Li, et al, Maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia: a case-control study, https://doi.org/10.1101/2020.03.10.20033605.
15. Poon et al. ISUOG Interim Guidance on 2019 novel coronavirus infection during pregnancy and puerperium: information for healthcare professionals. 2020.
16. Rasmussen S, Smulian J, Lednicky J, et al. Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know. American Journal of Obstetrics and Gynecology 2020 doi: https://doi. org/10.1016/j.ajog.2020.02.017.
17. Royal College of Obstetrics and Gynecology (RCOG). Coronavirus (COVID-19) Infection in Pregnancy. Version 2. 13 March 2020.
18. Royal College of Pediatrics and Child Health.(RCPCH). COVID-19 - guidance for paediatric services. 13 March 2020.
19. Schwartz, David A. An Analysis of 38 Pregnant Women with COVID-19, Their Newborn Infants, and Maternal-Fetal Transmission of SARS-CoV-2 Infections and Pregnancy Outcomes. Archives of Pathology and Laboratory Medicine; doi: 10.5858/arpa.2020-0901-SA.
20. Schwartz, David A. Potential Maternal and Infant Outcomes from Coronavirus2019-nCoV (SARS-CoV-2) Infecting Pregnant Women: Lessons from SARS, MERS, and Other Human Coronavirus. Viruses, February 10, 2020.
21. Shaoshuai Wang et, al, A Case Report of Neonatal COVID-19 Infection in China.
22. Wong SF, Chow KM, Leung TN, Ng WF, Ng TK, Shek CC, et al. Pregnancy and perinatal outcomes of women with severe acute respiratory syndrome. Am J Obstet Gynecol 2004 Jul;191(1):292-7.
23. WORLD HEALTH ORGANIZATION (WHO). Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected Interim guidance 13 March 2020 (Retrieved 15 March 2020).
24. Yan Chen, et al, Infants Born to Mothers with a New Coronavirus (COVID-19), Case Report, Frontiers in Pediatrics, March 16, 2020, doi: 10.3389/fped.202.00104.
25. Zhu H, Wang L, Fang C, Peng S, Zhang L, Chang G et al. Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia. Transl Pediatr. 2020;9(1):51-60. Epub 2020/03/11. doi: 10.21037/tp.2020.02.06. PubMed PMID: 32154135; PMCID: PMC7036.

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