SOP For Neonates (COVID 19) in PGIMS Rohtak

Neonatology Department

Introduction

There is no current evidence to suggest transplacental transmission of virus. So far, no viruses have been detected in cord blood, breast milk and amniotic fluid; therefore, the baby would not be infectious at birth. Transmission is mainly via droplet spread from close contacts and inadequate hand washing.

Preparation before Delivery

1. The neonatal on call JR/SR/ consultant should be informed in the case of an imminent/impending delivery of a mother with suspected/confirmed COVID-19.
2. Neonatal JR/team will liaise with obstetric teams.
3. A single resident as per plan should be attending deliveries of all mothers suspected or confirmed case of COVID 19, another resident should be ready on call if baby needs extensive resuscitation

Delivery area/ operation theatre

1. Isolation Emergency OT/delivery area will be used for delivery and caesareans
2. Emergency trolley for resuscitation would be placed in another room adjacent to mother's delivery table room
3. The resuscitation trolley should be well equipped with all the necessary equipment should be checked before delivery. Transport incubator should be ready outside OT/delivery isolation area and staff nurses will ensure oxygen and air cylinders to be ready if baby needs to be transfer to other area
4. The neonatal team would stay in another room and wear full PPE, irrespective of the positive or suspect status of the mother
5. The mother will be wearing a mask; there will be no skin to skin contact with mother in order to minimise transmission to the skin of the baby.
6. Immediate cord clamping to be done
7. The baby would be handed over to the neonatal team by staff nurse of delivery team.
8. Use standard guidelines for resuscitation protocol
9. Equipment should be sterilised as per the hospital guidelines
10. All the unused consumable should be disposed off even if not used and fresh kit should be used for next delivery
11. Room should be negative pressure room or there should be facility of exhaust fans
12. Newborn care corner should be fully carbolised after every resuscitation of suspect/confirmed COVID cases

Transfer of baby to isolation ward

1. Babies will be transported in designated transport incubator/trolley to isolation area

2. Security/ bearers should be contacted to help clear the corridors/open doors to ensure a smooth transfer process from Delivery room/Theatres to the isolation room/ isolation nursery
3. Once ready to move, resuscitation team should inform the staff in NICU that baby is arriving to NICU
4. Simulation exercise to be conducted to prepare staff, build confidence and identify the lacunae
5. Transport incubator/ trolley should be fumigated after each use

If baby is well and stable

1. After immediate cord clamping, the neonate should be isolated from the mother.
2. During isolation, healthy neonates should preferably be cared for by family member not in contact with mother. Such care can be provided in designated isolation ward taking care that persons with suspected/proven infection are not allowed in the area. Designated Staff nurse may look after the babies admitted in that area.
3. Mother can express milk after washing hands and breasts and while wearing mask. This expressed milk can be fed to her own baby without pasteurization.
4. Mother and baby can be roomed-in once mother has been tested and declared to be clear of infection. To facilitate early rooming-in, viral testing in mothers with suspected infection should be conducted and reported on priority

If the healthcare facilities are overcrowded because of large number of COVID-19 infections

- Healthy neonate may be roomed-in with mother. The mother-baby dyad must be isolated from other suspected and infected cases. Direct breastfeeding can be given. Mother should wash hands frequently including before breastfeeding wear mask and take care respiratory precautions. If breastfeeding not feasible due to maternal or neonatal condition, expressed breast milk can be fed.
- If safe, early discharge to home followed by telephonic follow-up by a designated nurse may be considered.
- For neonates roomed in with mother of suspect/confirmed COVID-19 infection, one healthy family member (if possible), following contact and droplet precautions should be allowed to stay with her to assist in baby care activities.

Member of the neonatal team should regularly assess the baby for any symptoms, symptomatic babies need to be shifted to NICU and to be managed as per NICU protocol. Full PPE should be used If mother is positive.

If baby is symptomatic and needs NICU admission

If symptomatic, neonates born to a mother with suspected or proven COVID-19 infection should be managed in separate isolation facility/NICU.

- Suspected COVID-19 cases and confirmed COVID-19 cases should be managed preferably in separate isolations.
- If due to large cases becomes not feasible to have separate facilities and the neonates with suspected and confirmed infections will be managed in single isolation facility, they would be segregated by leaving enough space(6feet) between the two cohorts.
- Negative air pressure isolation rooms are preferred for patients requiring aerosolization procedures (respiratory support, suction, nebulization). If not available, negative pressure can also be created by 2-4 exhaust fans driving air out of the room.
- Isolation rooms should have adequate ventilation. If room is air-conditioned, ensure 12 air changes/ hour and filtering of exhaust air. These areas should not be a part of the central air-conditioning.
- The doctors, nursing and other support staff working in these isolation rooms should be separate from the ones who are working in regular NICU/SNCU.
- The staff should be provided with adequate supplies of PPE. The staff also needs to be trained for safe use and disposal of PPE.
- The admitting space would be isolation area ward if baby is well and if sick to be admitted to COVID NICU
- If either parent is suspected or proven COVID-19 positive, then they will not be allowed to visit the unit till their status becomes negative.
- Movement of staff from isolation area to other areas of the NICU would be avoided and staff should, where possible, enter via the other entrance.
- Expressed breast milk and donor breast milk can be used if possible
- Babies who are ventilated/CPAP Should be nursed in an incubator (preferably) or under radiant warmer. No KMC practice to be followed. This is to protect the baby from acquiring the infection from staff/parents as well vice versa.
- Use of HFNC for neonatal respiratory support should be avoided
- Healthcare providers should practice contact and droplet isolation and wear N95 mask while providing care in the area where neonates with suspected/proven COVID-19 infection are being provided respiratory support.

Testing for virus

1. Mother
    a. If, following admission of the baby, the viral swabs on the mother are negative then standard care precautions would apply to the care of the baby. If the baby is being cared for in isolation area then a decision may be made to shift the baby out of isolation on priority.
    b. If, following the admission of the baby, the mother tests POSITIVE for COVID-19, then the baby shall remain in isolation area preferably till she is declared negative and non-infectious.
2. Baby

a. If baby asymptomatic: Test After birth at 24hr and 48 hrs if negative repeat at 7 days
b. If symptomatic: Test After birth at 24hr and 48 hrs if negative repeat at 7 days
c. The baby will also be tested at day 14 for the presence of the virus if remains admitted (Rationale: the baby may test positive if it acquires the infection from mother during visits.)
   If baby is intubated BAL (Bronchoalveolar Lavage) can be preferred sample

Treatment

No antiviral, No chloroquine /hydroxychloroquine, Symptomatic care

Equipment

Disinfection of Surfaces in the childbirth/neonatal care areas for patients with suspected or confirmed Coronavirus infection are not different from those for usual Labor room/OT/NICU/SNCU areas

• Wear personal protective equipment before disinfecting.

• If equipment or surface is visibly soiled first clean with soap and water solution or soaked cloth as appropriate before applying the disinfectant.

• 0.5% sodium hypochlorite (equivalent to 5000 ppm) can be used to disinfect large surfaces like floors and walls at least once per shift and for cleaning after a patient is transferred out of the area.

• 70% ethyl alcohol can be used to disinfect small areas between uses, such as reusable dedicated equipment.

• Hydrogen peroxide (dilute 100 ml of H2O2 10% v/v solution with 900 ml of distilled water) can be used for surface cleaning of incubators, open care systems, infusion pumps, weighing scales, standby equipment ventilators, monitors, phototherapy units, and shelves. Use H2O2 only when equipment is not being used for the patient. Contact period of 1 hour is needed for efficacy of H2O2.

Protocol for management of babies born to confirmed/suspected COVID 19 mothers (inborn)

A. Protocol for Confirmed COVID 19 Mother's Baby

Place of Delivery	Designated Isolated Delivery Room / Emergency OT	
Care at Delivery	• Designated JR to attend the delivery • Neonatal resuscitation/stabilisation to proceed as per current NRP guidelines • Proper hand hygiene and PPE • Use self inflating bag no T-piece resuscitation	
Delayed Cord Clamping & Skin to Skin Contact	Immediate cord clamp No skin to skin contact	
	Baby well	**Baby sick**
Place of postnatal care of baby	Isolation Ward Room adjacent to Mother's Room or designated isolation area	shift to Isolation COVID NICU
Baby's Testing	Nasopharyngeal Swab*/Oropharngeal swab for COVID- 19 RT PCR after birth as soon as possible/ at 24 hrs Repeat at 48 hrs and day 7	• Nasopharyngeal Swab/orophangeal swab for COVID- 19 RT PCR after birth as soon as possible/at 24 hours, and at 48 hours • CBC, LFT, KFT, CRP and Chest X Ray as per standard protocols • If first PCR negative, second testing on day 2 at 48 hrs and repeat every 7 days • If first PCR positive, repeat testing every 4^{th} day till 2 samples 24 hrs apart are negative
Separation from mother	Yes (Mother shall be shifted to Corona isolation ward)	Yes

Care provider	Designated staff nurse of isolation area and baby to motherside when resolution of fever for at least 72 hours AND improvement in respiratory symptoms AND at least two consecutive test are negative collected≥ 24 hours apart. OR Alternative family member if available (uninfected individual more than 60 years or with comorbities should not provide care).	Designated NICU staff. Mother is allowed to visit when resolution of fever for at least 72 hours AND improvement in respiratory symptoms AND at least two consecutive test are negative collected≥ 24 hours apart.
Breastfeeding	EBM/formula milk to be given by designated staff Nurse /alternate healthy caregiver. Breastfeeding when mother cleared of infection	EBM/ formula milk to be given by COVID NICU staff nurse Breastfeeding when mother cleared of infection
Precautions to be taken by staff care provider	Hand hygiene and PPE and respiratory precautions	
Treatment	None, even if PCR Positive	Supportive care, even if PCR positive Steroids to be avoided
Discharge timing	Baby Well	Baby Sick
	As early as possible when 2 PCR negative with healthy caretaker/at the time of mother's discharge with mother, Dangers signs should be explained to caretakers	Once baby is clinically stable and 2 PCRs 24 hours apart negative with healthy caretaker/at the time of mothers' discharge with mother Dangers signs should be explained to caretakers
Care provider at home	Alternative caregiver/ Mother. Mother and baby need 14 days home isolation if mother's or baby's PCR positive; Contact and droplet precautions at home	Alternative caregiver/ Mother- once she is afebrile for 72 hours, improvement of symptoms and 2 PCRs negative (in case she was COVID positive); Contact and droplet precautions at home.
Followup	Caregivers to Report to Hospital in case baby born to COVID positive mother develops any danger signs till 14 days	
Vaccination	As per existing guidelines at the time of discharge.	

Designated JR/SR/Faculty will take isolation area round with full PPE and precautions

If facility is overcrowded well baby can be roomed in with asymptomatic mother and breastfeeding can be given with mother taking all precautions including wearing N 95 Mask and other respiratory droplet precautions

*The same swab stick can be used to take first sample from oropharynx and then nasopharynx.

B. Baby born to Suspected Mother for COVID 19

Same protocol as mentioned above for COVID positive mother to be followed till test comes negative in suspected mother and then baby will be managed as per standard unit protocols.

C. In out born babies we should look whether mother is suspected/ confirmed COVID or any other contact of baby suspected/confirmed COVID. If suspected/confirmed contact history is there, the above mentioned protocols to be followed and baby to be managed in isolation NICU

D. Neonatal Transport to be minimised

E. These guidelines are subjected to change with emerging evidence.