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During COVID-19
For Gynaecologists

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SURAKSHA MODULE – 2

SAFE DELIVERY FOR PREGNANCIES AFFECTED BY COVID 19

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Authors:

DR. SHRINIVAS GADAPPA ,
MD Professor and Head Department of OBGY GMCH, Aurangabad.

DR. SONALI DESHPANDE,
Associate Professor Department of OBGY GMCH, Aurangabad.

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Presenter:

DR ARUN NAYAK
HON SECRETARY, AMOGS

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Introduction

- All women have right to a safe and positive childbirth experience, irrespective of positive or negative COVID status. In all circumstances, maternity care providers should continue to provide client-centered, respectful skilled care and support.
- The pregnant women coming for delivery may be symptomatic or asymptomatic or high containment area.

Evaluation of all pregnant women presenting to the hospital

- All pregnant women should be screened for signs and symptoms of COVID-19, as well as whether they have had close contact with a confirmed case or persons under investigation, before entering the hospital for admission to the labor and delivery unit .
- Screening can include checking temperature and asking about fever and/or new cough, shortness of breath, sore throat, muscle aches, rhinorrhea/nasal congestion, and smell and taste abnormalities and asking about residence in high containment area or travel history.

Evaluation of all pregnant women presenting to the hospital

- Once a woman is tested positive for RT-PCR, she must be referred to a hospital specially designed for COVID care facilities identified in the public and private sector.
- These would be large multispecialty hospitals with adequate space, infrastructure and logistics. In such COVID care facilities, three demarcated zones (clean, potentially contaminated, and contaminated), each housing all the needed equipment and services for women and neonates are required for management of suspected and confirmed COVID-19 mothers.
- Every pregnant woman should be triaged at entry and then allotted into one of the zones.[1]

Standard operating procedure(SOP) for flow and Management of pregnant mothers at Triage:

- Ensure pregnant women /attendants do not directly go to the labor room without screening and workup
- All pregnant women from high containment area to be taken as COVID positive unless proved otherwise
- Maintain a distance of two meter between the admitted pregnant woman and others.
- **Rapid initial assessment for features of Severe Acute Respiratory Illness will be taken as high COVID suspects and will be admitted in designated COVID hospital.**

Standard operating procedure(SOP) for flow and Management of pregnant mothers at Triage:

These include pregnant woman with any one of the following symptoms: **1. FEVER** *<u>with</u>*

- Respiratory Rate ≥ 30bpm
- Shortness of breath
- Cough
- SpO2 ≤ 93 % on room air
- Heart rate ≥ 100bpm
- Altered level of consciousness
- Immediately admit in ICU for COVID suspect/confirmed.

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Standard operating procedure(SOP) for flow and Management of pregnant mothers at Triage:

- Ask the following questions to screen whether pregnant woman is suspected COVID

- Does the patient currently have or had in the past any symptoms of Severe Acute Respiratory Illness requiring hospital admission?
- Fever with cough **Yes / No**
- Fever with shortness of breath **Yes /No**
- Does the patient have any one of the following symptoms: Fever or Cough or Shortness of Breath With
- History of travel within the past14 days **Yes /No**

  Or
- History of contact with COVID positive patient. **Yes /No**

  Or
- The patient is a healthcare worker **Yes /No**
- Is the patient asymptomatic but a high risk contact:
  - » Living in the same household with COVID positive. **Yes /No**
  - » Health care worker providing care to COVID positive **Yes/No**
  - » Travelling with COVID positive **Yes / No**
- Does the patient belong to hotspots/clusters/ large migration gatherings/ evacuee centres then all symptomatic patients with either
  - › Fever › Cough › Sore Throat › Runny Nose

Standard operating procedure(SOP) for flow and Management of pregnant mothers at Triage

- **If no signs and symptoms of COVID, admit in labor room and deliver her in LR with level 2 protection.**
- **If signs and symptoms suggestive of mild/ moderate COVID admit in isolation ward and deliver in separate designated OT/ LR with level 3protection.**
- If pregnant woman has evidence of SARI admit ICU, with level 3 protection and their delivery will be conducted in Separate designated OT/LR whether vaginal or abdominal with level 3 protection.
- After decision for admission is taken the pregnant woman will be provided with a mask at triage with full instructions about correct usage and to keep the nose covered.
- Complete the documentation. Please ensure name, age, complete address and phone numbers are documented as it may be required later for contact tracing.

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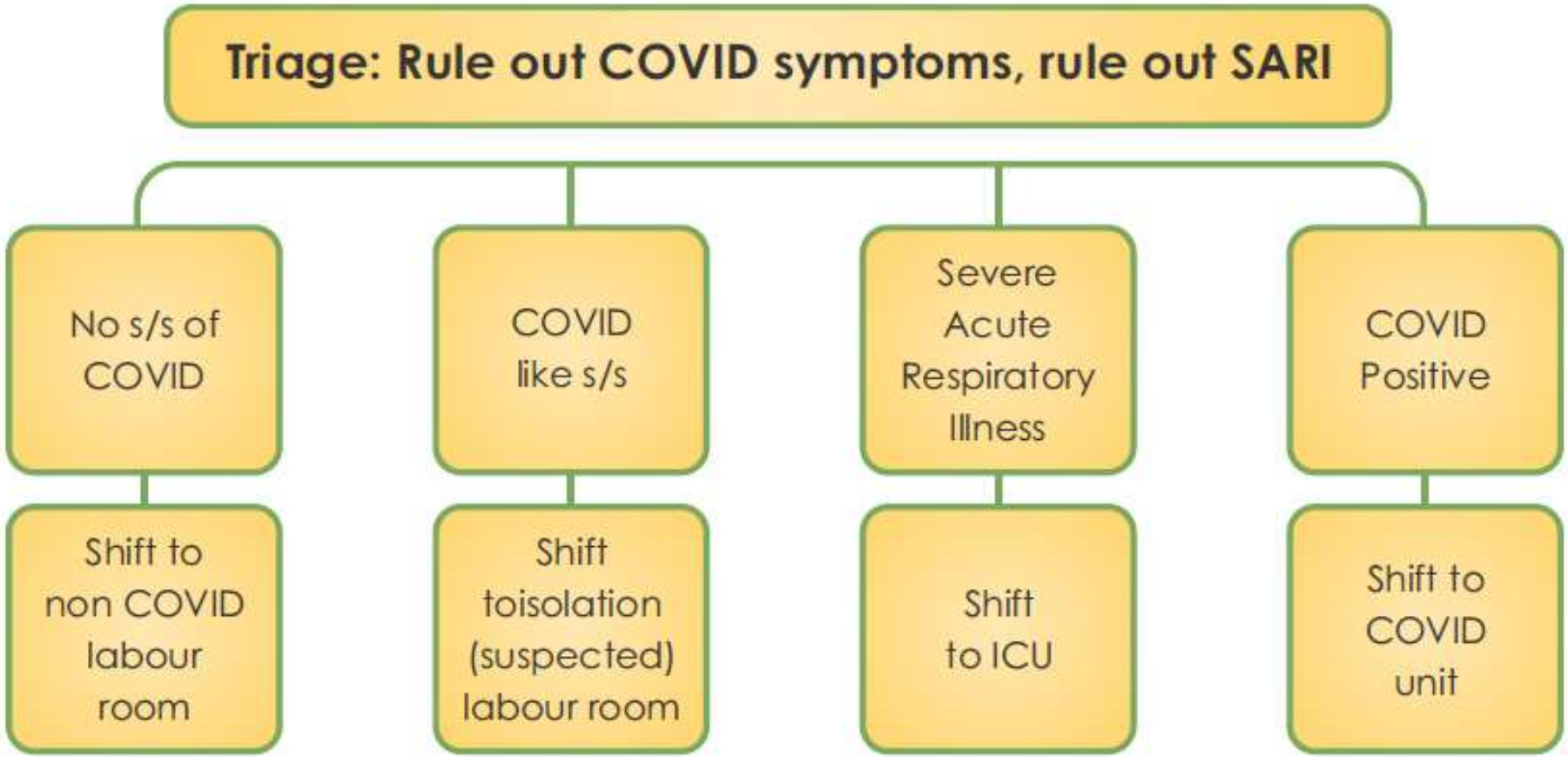
Strategy for COVID testing for pregnant women in India

- Pregnant women residing in clusters/containment area or in large migration gatherings/evacuees centre from hotspot districts presenting in labour or likely to deliver in next 5 days should be tested even if asymptomatic.
- Asymptomatic pregnant women should be tested in the health facilities where they were expected to deliver and all arrangements should be made to collect and transfer samples to testing facilities. Women should not be referred for lack of testing facility[2].



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Guidelines for management of all pregnant women in labour

- Generally, management of labor is not altered in women giving birth during the COVID-19 pandemic or in women with confirmed or suspected COVID-19 that is asymptomatic or mildly symptomatic[3].
- Person-to-person contact and time in the labor unit and hospital should be limited, as safely feasible.
- Minimize number of people involved in any procedure includingCPR.
- No CPR, crash intubation, peri-mortem cesarean sections or conducting a childbirth without protecting yourself first should bedone.
- Adequate equipment and trained healthcare providers should be available for intra-partum monitoring and obstetric interventions.

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Birth companion during labor and delivery

- A birth companion (Doula) is important to many laboring women and one support person can be permitted who must remain with the laboring woman (may not leave her room and then return).
- The support person should be screened for fever and other symptoms before entering the building and in accordance with hospital policies.
- Those with any symptoms consistent with COVID-19, exposure to a confirmed case within 14 days, or a positive test for COVID-19 within 14 days should not be allowed to attend the labor and birth.
- If screening is negative, we require that the support person wear a cloth face covering, at a minimum, consistent with CDC guidance[4].

Induction of labour:

- There is no rationale to induce labour or deliver a woman early because of COVID-19 infection[5].
- An individual assessment regarding the urgency of planned induction of labour should be done.
- If induction of labour cannot safely be delayed, the general advice for COVID 19 should be followed.

An aesthesia in COVID +/COVID Suspect pregnant woman:

- Prefer regional instead of General Anesthesia unless respiratory compromise is present where General Anesthesia and subsequent ventilation will be needed.
- If general anesthesia is required, an acrylic safety box must be used at the time of intubation.
- If general anesthesia is to be administered, preoxygenate the pregnant woman with 100% oxygen for 5 minutes and provide rapid sequence induction(RSI)
- Minimum number of people required should stay in the OT during intubation and specially 15-20 minutes after extubation when risk of aerosol generation is maximum.
- Regional analgesia and anesthesia can be used in women with COVID-19 infection. Specialized techniques can be adopted for general anesthesia[5]

Once admitted in an isolation room with labour pains:

- Laboring woman must wear a mask.
- Full maternal and fetal assessment for the severity of COVID-19 symptoms & confirmation of the onset of labour which should follow a multidisciplinary team approach including an infectious diseases or medical specialist.
- SARS-CoV-2 has not been detected in vaginal secretions or amniotic fluid, so rupture of fetal membranes and internal fetal heart rate monitoring may be performed for usual indications, but data are limited[6].

Mode of delivery

- In a pregnant woman with suspected or confirmed COVID-19 should be guided by her obstetric assessment and her physiological stability (cardio-respiratory status and oxygenation).
- COVID-19 itself is not an indication for induction of labor or cesarean section. No evidence to favor one over the other. Caesarean section should ideally be undertaken only when medically justified and dictated by usual obstetric practice.

1ST Stage of Labour

- Continuous electronic fetal monitoring should be done during labor. If facilities for the continuous electronic fetal monitoring are not available, manual monitoring by frequent auscultation of fetal heart rate should be done during the labor as indicated for a high-risk delivery,but may be difficult with full PPE.
- Use designated stethoscope,BP apparatus, pulse ox meter, fetal doppler for such pregnant woman and do not share any items including mobile phones.
- Oxygenation status of women during labor should be monitored by a pulse ox meter hourly and oxygen therapy should be titrated to maintain oxygen saturation of more than 94%.
- Maternal monitoring including temperature, respiratory rate & oxygen saturations[2].

1ST Stage of Labour

- Intake and output of fluids should be carefully monitored in these women, and aggressive hydration should be avoided since it can lead to pulmonary edema and worsen maternal oxygenation that may already be compromised[7].
- Repeated unnecessary vaginal examinations to be avoided to minimize risk of exposure to doctors.
- Strict maintenance of partograph in such pregnant woman. Unnecessary prolongation of labour is avoided and early decision for LSCS to be taken in case of suspected delay in progress of labour.

1ST Stage of Labour

MATERNAL PARAMETERS

- Pulse
- Respiratory rate
- BP
- Saturation
- Intake/Output
- Uterine contractions
- PV when indicated

FETAL PARAMETERS

- Foetal heart rate monitoring
- (Continuous / intermittent as indicated)

2nd Stage of labour

- Active pushing during second stage of labour may increase exposure to the pregnant woman's respiratory secretions because of deep breathing and maternal expulsive efforts.
- Pregnant woman should be instructed to push with a closed mouth as maximum aerosol generation occurs at this stage.
- Barrier between chest and abdomen for women with known or suspected infection should be kept in order to prevent infection to accoucheur at foot end.
- Health care providers to maintain social distancing even when off duty / in the duty room while
- Avoid unnecessary episiotomy and instrumentation due to fear of extension and more operative intervention under anesthesia.

3rd Stage of labour

- Double oxytocics for PPH prophylaxis has to be given to all pregnant woman

It includes,

- Inj.Oxytocin 10 IU IM
- Inj.Oxytocin 20 IU in 1 pint of RL
- Tb.misoprostol 800 mcg PR

3rd Stage of labour

- Active management of third stage of labour should be routinely performed.
- Neonatal resuscitation corners located at 2 meter away from the delivery table.
- ACOG has stated that delayed umbilical cord clamping is highly unlikely to increase the risk of transmitting pathogens from an infected mother to the fetus.[8]
- Umbilical cord blood banking can be performed if planned; the risk of COVID-19 transmission by blood products has not been documented and is unclear at present.[8]

3rd Stage of labour

- Though guidelines promote delayed cord clamping and skin to skin contact but in present scenario with limited evidence early cord clamping and avoidance of skin to skin contact is practiced.
- Mother-to-child transmission of corona virus during pregnancy is unlikely, but after birth, a newborn is susceptible to person-to-person spread and the virus has not been detected in amniotic fluid, breast milk , or other maternal samples[9]
- The World Health Organization has promoted skin to skin contact. The numerous benefits of skin to skin contact and breastfeeding substantially outweigh the potential risk of transmission and illness associated with COVID 19[10]. This practice of skin to skin contact has to be individualized.

SOP for Caesarean Section of COVID +/COVID Suspect

- Caesarean section is reserved for those with obstetric indications.
- OT should have negative pressure facility.
- Take proper consent – inform that category one CAESAREAN SECTION cannot be performed, as the team needs time to put on PPE and prepare the entire team.
- Shift the pregnant woman in designated OT for COVID.

SOP for Caesarean Section of COVID +/COVID Suspect

- Minimize the number of persons in the OT and minimize the movement of the team in and out of the OT during the procedure.
- Give preoperative antibiotic prophylaxis.
- Start blood transfusion only if indicated.
- Shift the pregnant woman back to her same allotted bed after Caesarean section

SOP for Caesarean Section of COVID +/COVID Suspect

- One birth companion in level 1 protection will help pregnant woman in initiating breastfeeding.
- Proper biomedical waste management to be supervised by nursing staff after the delivery and caesarean section.
- Instruments to be sent to the CSSD for processing in double polythene bags
- Cleaning and fumigation as per hospital protocols after the procedure but wait for one hour if possible before reusing the OT.

Management of Pregnant woman with COVID-19- Admitted to Critical Care:

Particular considerations for pregnant women are:

- Hourly observations, monitoring both the absolute values and the trends.
- Titrate oxygen to keep saturations>94%.
- Hourly respiratory rate looking for the rate and trends: Young fit women can compensate for deterioration in respiratory function and are able to maintain normal oxygen saturations before they suddenly decompensate.
- So, a rise in the respiratory rate, even if the saturations are normal, may indicate deterioration in respiratory function and should be managed by starting or increasing oxygen.

Evidence based principles of management include:

- Conservative Intravenous fluid strategies
- Empirical early antibiotic for possible bacterial pneumonia
- Invasive ventilation where required
- Periodic prone positioning during mechanical ventilation but as difficult to maintain this position in pregnant women they may be placed in the lateral position.

Postnatal Management

- She should be encouraged to maintain the good practices of hygiene related to the puerperium and hand hygiene
- She should consume a healthy, nutritious diet to recover from the infection and build immunity.
- In case of community spread, stable neonates exposed to COVID-19 from mothers should be roomed-in with their mothers and be exclusively breastfed with appropriate hand hygiene and proper use of mask if she is willing.
- For supporting lactation, nurses trained in essential newborn care and lactation management should be provided. A healthy asymptomatic willing family member who is not positive for COVID-19 and has not been in direct contact with suspected or confirmed COVID-19 person may be allowed to provide support for mother and neonate.

Postnatal Management

- If rooming-in is not possible because of the sickness in the neonate or the mother, the neonate should be fed expressed breast milk of the mother by a nurse or a trained healthy family member. Other option can be expressed breast milk with breast pump but due care of sanitization of breast pump
- If mother is critically ill or no healthy relative , baby may be isolated and formula feeds can be given.
- If safe, early discharge to home followed by telephonic follow-up or home visit by a designated healthcare worker may be considered.

FLOW CHART OF MANAGEMENT OF PREGNANT WOMEN WITH SUSPECTED OR CONFIRMED COVID 19 INFECTION WITH RESPIRATORY SYMPTOMS[7]

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1. Give her a mask to put on, and should not be removed
2. Reassure her that we will take care
3. Health care team to be in PPE, as recommended)

Is there an obstetric emergency, or is she in active labour ?

NO

Is admission needed?
Does she have severe symptoms (box 1) OR Does she have clinical or social risks (box 2).• If YES, urgent assessment and planning of individualised care.
If NO, can advise home stay

YES
is she stable ?

NO

Unstable, severe triggers, clinically severe or critical stages of COVID 19. Transfer to critical care unit

YES
Move her to designated area, that includes LDR, OT, ICU, wards, transfer should be allocated for these patients Inform COVID team (obstetrician, anaesthetist, midwifery, nursing leads, critical care team) and other specialities as per need.

Obstetric Early Warning System; SOFA score; Worsening condition
Sepsis pathway; multidisciplinary team and Collaborative care

Requires labour management

Requires surgical intervention

Disinfection of surfaces in the childbirth/neonatal care areas according to guidelines

- **Minimal composition of PPE for the management of suspected or confirmed cases of COVID-19 to be followed according to guidelines**
- **Biomedical waste disposal to be followed as per guidelines**
- Follow routine biomedical waste disposal handling, segregation, transport and final disposal guidelines as prescribed by the Government of India.

Discharge policy

- For asymptomatic woman mother can be discharged on day 7.
- For mild/very mild/pre-symptomatic cases
  - Pregnant woman can be discharged after 10 days of symptom onset and no fever for 3 days.
  - No need for testing prior to discharge
- Pregnant woman will be advised to follow home isolation for a further 7 days after discharge.

Discharge policy

- **For moderate cases**
  - Pregnant woman can be discharged

(a) if asymptomatic for 3 days

(b) after 10 days of symptom onset.

  - No need for testing prior to discharge.
  - Pregnant woman will be advised to follow home isolation for a further 7 days after discharge.

- **For severe cases**
  - Discharge after clinical recovery and pregnant woman tested negative once by RT-PCR (after resolution of symptoms).

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