



CRITICAL ILLNESSES IN OBSTETRICS: COMBATING THE COVID CONFUSION

Obstetrics & Gynaecology

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ABSTRACT

COVID-19 has strongly influenced clinical practice. This new global pandemic has brought along several difficulties, one of which is the dilemma of managing a COVID-like scenario. This is especially challenging in pregnant patients where the question is of two lives. We describe three such obstetric scenarios and discuss ways of achieving best possible outcomes.

KEYWORDS

COVID-like disease, diagnostic dilemma, RT-PCR negative.

COVID-19, a top occupant of the medical mind today, has decisively changed the course of health sector. Health care centres screen patients for COVID-19 as the first step before any further intervention.^{1,2}

In the background of this new multi-waved global pandemic, other life threatening diseases throw diagnostic and management challenges, more so, when non-COVID diseases exhibit symptoms and signs consistent with COVID-19.

This series describes three patients presenting with symptoms of COVID-19 disease without the actual disease but with other grave medical disorders complicating pregnancy.

Case 1

A 27 years primigravida at 37¹⁴ weeks of gestation presented with history of fever of one day and pain lower abdomen since 6-7 hours. She had no significant past history and was not vaccinated against COVID. Antenatal period was uneventful. On examination, pulse- 124 beats per minute, blood pressure - 100/70mmHg, temperature- 104degF, Spo2 - 94% at room air. Uterus was term size, with one to two contractions of ten to fifteen seconds. Fetal heart rate was 160-170 beats per minute. Cervix was soft, central, 2-3 cm dilated, 30% effaced, membranes were absent with grade 1 meconium stained liquor. Non Stress Test showed persistent tachycardia, poor baseline variability and no accelerations.

Rapid Antigen Test (RAT) for COVID-19 was negative. RT-PCR(Reverse Transcriptase – Polymerase Chain Reaction) was sent. After risk explanation and initial stabilization, the patient was shifted to COVID-suspect ward in view of fever until RT-PCR confirmation.

Haemoglobin- 9.1g%, WBCs- 14.2x10³/mL, Platelets – 68,000 x10³/mL, PCV – 47%. Liver, renal function tests, coagulation profile were normal. C-Reactive Protein – 96mg/dL, S.Ferritin – 104ng/mL, S LDH – 556 U/L Procalcitonin and Troponins were normal. Bedside ultrasound showed no abnormality.

By this time, maternal Pulse increased to 150 beats per minute, temperature remained 104 degF despite infusion of paracetamol and fetal tachycardia worsened to 190-210 beats per minute. The patient underwent emergency Caesarean section in view of maternal high-grade fever with non reassuring NST with grade 1 meconium stained liquor in early labour. A 2.2kg male baby was delivered. Placenta was normal size. There was mild post-partum haemorrhage but was managed conservatively.

NS1 antigen was positive and provisional diagnosis of dengue was made. Fluid replacement, supportive therapy and monitoring were instituted. The next morning, RT-PCR report came negative and the patient was therefore shifted back to maternal recovery unit. Mother and baby were discharged in satisfactory condition on day 7.

At one month's follow-up visit, both mother and baby were doing well.

Case 2

A 20 years primigravida with 31¹³ weeks of gestation presented with cough since 3 days and breathlessness of sudden onset and worsening in nature (NYHA- Class 4). She had no significant past history and was not vaccinated against COVID. Antenatal period was uneventful. On examination pulse - 130beats per minute, BP – 190/120mmHg, SPO2- 90% at room air and respiratory rate-32 per minute. Pedal edema and bilateral basal crepitations were present.

RAT for Covid – 19 was negative. RT-PCR was sent. Platelet count – 122x10³/mL. Urine proteins- 4+. S. LDH was 590 U/L. Obstetric ultrasound was normal.

Patient was admitted to Severe Acute Respiratory Illness-Intensive Care Unit (SARI ICU) and oxygenated through face mask at 6L/min. Antihypertensives, antibiotics, antenatal corticosteroids, magnesium sulfate by Pritchard's regime and furosemide (for pulmonary edema) were given. In the background of worsening respiratory status, COVID-19 was the top differential diagnosis. RT-PCR report was awaited but standard treatment protocol for COVID-19 was therefore initiated. Oxygenation was changed to Non-Invasive Ventilation (NIV) with high Positive End Expiratory Pressure (PEEP) support as per the advice of multidisciplinary intensive care team, in view of worsening tachypnea and increased work of breathing.

RT-PCR was negative. As there was no further improvement, a cardiac pathology was suspected and the patient was shifted to cardiac care centre. Echocardiography showed global hypokinesia with ejection fraction of 30% and features of pulmonary edema. A repeat obstetric ultrasound detected nil fetal cardiac activity. A diagnosis of severe pre eclampsia with peripartum cardiomyopathy with intrauterine fetal demise was made. In the next 18 hours, as the supportive treatment continued, the patient went into labour and delivered vaginally.

In the post natal period, the condition of the patient remained the same. On the postpartum day 4, she suffered cerebral thrombosis which resulted in left hemiplegia and her treatment continued with neurology and physiotherapy. She is now recovering from the neurological deficits.

Case 3

A 29years Gravida 2, Para 1, Living 0 presented at 31¹⁴ weeks of gestation with cough and expectoration, easy fatigability since 4 days, high grade fever with chills and rigor since 2 days and breathing difficulty since 1 day. Antenatal period was uneventful. She had not received COVID vaccine. Her previous pregnancy was complicated by jaundice in the third trimester and intrauterine fetal demise, delivered vaginally at 30 weeks and one unit of packed red blood cells was transfused. Her past and family history was insignificant.

RAT was negative but she was shifted to COVID-suspect ward in view of COVID-like presentation.

On examination, she was pale. Pulse was 134 beats per min, BP-108/68mmHg, RR- 28 cycles per min, SpO2 was 91% at room air and she had temperature of 99degF. She had mild basal crepitations and pansystolic murmur. Uterus corresponded 30 weeks size, was relaxed. Fetal Heart Rate was 156 beats per min and regular.

Arterial Blood Gas (ABG) analysis was normal. Haemoglobin – 6g%, WBC – 23000/mL, platelets – 97,000x10³/mL. S. Bilirubin – 3.3mg%, (Indirect – 2.1mg%), S. LDH- 1485U/L. S. TSH was 5.69mIU/L. D-dimer was 2800, C-RP – 156, S Ferritin – 2400ng/mL, Troponin I was normal. Coomb's tests were negative. ECG showed sinus tachycardia. Urine had proteins (2+) and bile salts. Peripheral smear showed target cells, macrocytes and sickle cells. Electrophoresis showed Sickie-beta⁺ thalassaemia. Sputum culture grew Klebsiella species. Obstetric ultrasound was normal.

RT-PCR for COVID-19 was negative. A diagnosis of severe anemia due to Sickie-beta⁺ Thalassaemia with lower respiratory tract infection was made and the patient was shifted back to the maternity unit.

She was transfused 2 units of packed red blood cells. She maintained SPO2 of 98% on 6L/min. She was administered higher antibiotics, antenatal corticosteroid prophylaxis, Vitamin K and thyroxine. Hydration was maintained. Fever gradually reduced over 2 days. Cough with expectoration alleviated over four days. She was symptomatically better and was discharged in a week. She delivered a healthy baby vaginally at 38 weeks. Intra- and post-partum period was uneventful.

Haemoglobin electrophoresis of the baby done at 6 weeks showed sickle cell trait.

DISCUSSION

COVID-19 has had an irreversible impact on healthcare, throwing multi-pronged challenges with respect to infrastructure demands, allocation of resources, division of workforce, supply of consumables, intra- and inter-institutional networking for transfers, public health policies, and mental health of both patients and caregivers.³

Diagnostic difficulty is heightened when symptoms and signs of obstetric medical disorders mimic those of the new and incompletely understood COVID-19. Bias of care-givers towards COVID-19, adds to the dilemma. This often leads to over-investigation, stress on laboratory resources and economic burden.

Although Rapid Antigen Test (RAT) may help triage the patients at a basic level, the sensitivity of the test often impedes definitive decision making.⁴

Most institutions have a separate area for evaluation and care of COVID and COVID-like illness. Transfer of suspected patients to such an area is likely to delay initiation of intervention leading to additional complications. Patients at COVID centres awaiting confirmatory results are at risk of exposure to COVID-19 from similar patients who may actually have COVID-19.

Due to unforeseen resource-crunch, most centres deploy non-specialty personnel in COVID / COVID-suspect wards. This may further delay recognition of early features of non-COVID illnesses. Lisa Rosenbaum, in the editorial article writes about the affect on the quality of care due to radical transformation of health care system.⁵

The stress and mental trauma that the patient and her family experiences, cannot be ignored, especially when the matter concerns two lives. Proscriptions, as part of public health policy for control of COVID could impede routine screening for medical disorders in pregnancy. Fear of contraction of the disease and/or mandatory hospitalization even for COVID-like symptoms may cause hesitation to visit health care facility. Goyal et al., reported that one-third of pregnant women in their study had inadequate ante-natal visits, mainly due to lockdown and fear of contracting infection.⁶

Clinical scenarios, like the ones described above, are challenging. We suggest that the following measures can be of value in maximizing positive end-results.

It is important that judicious, quick but non-hurried approach is undertaken while managing critical illnesses. Working in haste often

complicates clinical situations.

Transferring patients to isolation areas is important. However, issues of safety and protection of the patient, bystanders, healthcare workers and support staff must be considered. Establishing networks of communication with the laboratory can avoid duplication of investigations. Adequate segregation of suspected patients from each other with COVID-appropriate behavior must be strictly followed at all times.

Additional steps that can immensely help are communication with the (non-specialty) ward staff regarding possible complications and their warning signs, request to revert back with reports as soon as they arrive, and attaching check-lists.

Counseling plays a great role in allaying fears of the patient and bystanders. Discussions between health authorities and policy makers, dissipation of correct and necessary information through multimedia, educating grass-root level health workers, establishing help-lines, encouraging pregnant women to be vaccinated can contribute in bettering the situation.

Life-threatening medical conditions complicating obstetrics must not escape the clinical radar even in the overwhelming presence of the COVID-19. In conclusion, 1.Banking upon hard-earned clinical acumen, 2.Being open to medical possibilities, 3.Adherence to guidelines, recommendations and health policies, 4.Clear communication and documentation and 5. Exercising due diligence, can lead to best possible outcomes.

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