



Fetal Death in COVID-19 Infected Pregnant Women: A Clinical Case Report

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Abstract

A lot of coronavirus disease 2019 (COVID-19) related deaths of fetus in pregnancy were reported in Yemen about what risk factors contributing to this excess death?. The aim of this case report is to explore more data about COVID-19 in pregnancy related death of fetus in Hodeidah, Yemen. The case reported here shows a 36-year-old female pregnant in second semester, cough, hypoxia, fever 38°C, difficult in breathing, and bleeding from nose as major of symptoms with oxygen saturation (O₂) of 63%, 30 ipm of respiratory rate (RR), 120/80 mmHg of blood pressure, and 140 bpm of heart rate (HR). The patient was diagnosed with bilateral asymmetrical consolidative change with ground glass opacification based X-ray, the leukocytosis, lymphopenia and neutrophilia were reported. The level of random blood sugar (RBS) was normal, increase in liver enzymes was observed. Mild increase in serum creatinine with C-reactive protein (CRP) was high reactivity with positive COVID-19. The pharmacological and therapeutic care were carried out according to national guideline. The fetus in pregnancy passed away (death) within ten days. The COVID-19 in pregnancy is of high concern for fetus and this is the first reported case of COVID-19 presented as highlights the complex context of management.

Keywords: COVID-19, Pregnancy, Fetus, Hodeidah, Yemen.

1. Introduction

Corona virus disease 2019 (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and was declared a global pandemic in March 2020 [1,2]. The COVID-19 pandemic has brought about significant challenges for Pregnant women and their fetuses, putting them at high risk during infectious disease outbreaks due to physiological and mechanical changes, particularly in the cardiorespiratory system. COVID-19 infection during pregnancy leads to severe complications and high maternal mortality rates [3-5]. The COVID-19 pandemic has increased the risk of adverse pregnancy outcomes including fetal growth restriction, premature membrane rupture, preterm birth, spontaneous abortion, and stillbirth [6,7]. highlighted that the nature of the association between COVID-19 and pregnancy outcomes remains unclear, although pregnant women are considered a vulnerable population when it comes to infectious diseases, as their immune systems are naturally suppressed to accommodate the developing fetus. So there is some meta-analyses involving pregnant woman with COVID-19 are still needed to clarify the association [8-10]. This study focus on identifying challenges, risks, and association of COVID-19 outbreak on pregnancy outcome in Hodeidah, Yemen in clinical case report where epidemiological and clinical feature of COVID-19 (First Wave) in Hodeidah have been studied as first time by Al Kamarany et al 2020 [11-12].

2. Clinical Presentation

The patient was received and assessed directly clinically in triage unit of COVID-19, isolation department, Center of Tropical Medicine and Infectious Diseases (CTMID), AL-Thawrah Public Hospital Authority, Hodeidah, Yemen. A 36-year-old female pregnant in second semester, cough, hypoxia, fever 38 °C, difficult in breathing, bleeding from nose as major of symptoms with 63% of oxygen saturation (O₂), 30 ipm of respiratory rate (RR), 120/80 mmHg of blood pressure, and 120 bpm of heart rate (HR). Chest x-ray, complete blood count, C-reactive protein (CRP)

were carried out. Also, the nasopharyngeal swab was collected and the COVID-19 was confirmed based on real time – polymerase chain reaction (RT-PCR) [13,14]. The patient was diagnosed, bilateral asymmetrical consolidative change with ground glass opacification and the lung involvement more than 50%. Increase in white blood cells (leukocytosis) that was 214200 ×10⁹/L, lymphopenia (8%), neutrophilia (90%), and normal platelets (174 × 10³ /ul) were reported. The level of random blood sugar (RBS) was normal (170 mg/dL), increase in liver enzymes [71 unit/L of Alanine transaminase (ALT), and 74 unit/L of Aspartate transferase (AST)], hypoalbuminemia was reported (2 g/dL), Mild increase in serum creatinine (1.5 mg/dL). On the other mean, increase the neutrophil lymphocyte ratio (NLR) that was 90/8 (11.25%) as predication of severity of case with CRP was high reactivity (70 mg/dL) with positive COVID-19 infection. The pharmacological approach of COVID-19 critical illness was summarized in Table (3).

Table 1. Results of hematological parameters

Parameters	Values	Normal values ^[15]
RBC (×10 ⁹ /L)	3.39	3500-5000
Hb (g/dl)	8.68	12-15
Hematocrit (%)	28.25	35-45
WBC (×10 ⁹ /l)	21.42	3.5±7.5
Neutrophil (%)	90	40-75
Lymphocyte (%)	8	20-45
Monocyte (%)	2	2-10
Eosinophil (%)	0	1-6
Basophil (%)	0	0-1
Platelets (×10 ³ /ul)	174	150-450

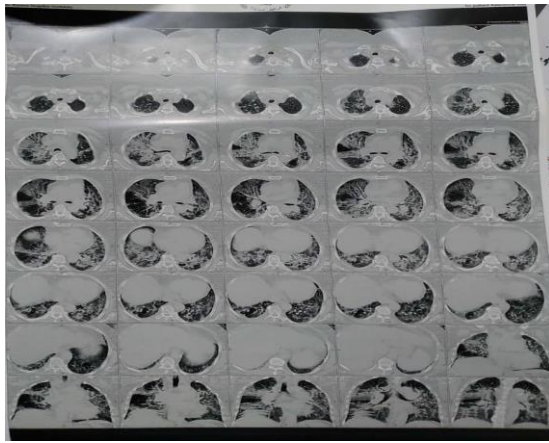


Fig. 1. Bilateral asymmetrical consolidative change with ground glass opacification seen in the mid and lower zone of lung field more prominent at periphery with no pleural effusion and the lung involvement was 50 % [16].

Table 2. Results of biochemical parameters

Parameters	Values	Normal values [17].
RBS mg/dl	170	140-180
ALT unit/L	71	0-35
AST unit/L	74	0-37
Albumin (g/dL)	2	8-20
Serum creatinine mg/dL	1.5	0.3 -1.3
K+ mmol/L	4	3.5-5
Na+ mmol/L	140	136-145
CRP mg/L	70	0-8

3. Discussion

Physiological, mechanical, and immunologic alterations in pregnancy could potentially affect the susceptibility to and the severity of COVID-19 during pregnancy [25]. COVID-19 infection in pregnancy is associated with an increased risk of adverse birth outcomes such as preterm birth, stillbirth, and maternal and infant complications. In USA, previous study included 57,563 pregnancy outcomes, 57,188 (99.3%) were liveborn infants, 65 (0.1%) were spontaneous abortions, and 310 (0.5%) were stillbirths. Most pregnant persons were unvaccinated at the time of COVID-19 infection, with a higher proportion in pre-delta (99.4%) than in the delta period (78.4%) [26]. In Melbourne, Australia, and to compare perinatal outcomes by vaccination status. COVID-19 vaccination during pregnancy was associated with a reduction in stillbirth and preterm birth, and not associated with any adverse impact on fetal growth or development. Vaccine coverage was substantially influenced by known social determinants of health [27]. COVID-19 infection during pregnancy is associated with adverse maternal and neonatal outcomes. A systematic review and meta-analysis were performed by Rahmati et al. The risk of neonatal ICU admission was significantly lower by 20% following COVID-19 vaccination in pregnancy (16%-24%). There was no evidence of a higher risk of adverse outcomes including miscarriage, gestational diabetes, gestational hypertension, cardiac problems, oligohydramnios, polyhydramnios, unassisted vaginal delivery, cesarean delivery, postpartum haemorrhage, gestational age at delivery, placental abruption, Apgar score at 5 min below 7, low birthweight (<2500 g), very low birthweight (<1500 g), small for gestational age, and neonatal fetal abnormalities [28]. Previous study by Blakeway et al that contributed to the body of evidence that having COVID-19 vaccination in pregnancy does not alter perinatal outcomes. Clear communication to improve awareness among pregnant women and healthcare professionals on vaccine safety is needed, alongside strategies to address vaccine hesitancy [29].

4. Conclusion

The COVID-19 outbreak is rapidly increasing in the number of cases, deaths, and countries affected. At the present time, limited data are available on pregnant women with COVID-19 on which to base recommendations for pregnancy-specific care. Surveillance systems for cases of COVID-19 need to include information on pregnancy status as well as maternal and fetal outcomes. The COVID-19 infection during pregnancy is associated with severe complications and adverse effects for the mother, fetus, and neonate. The COVID-19 in pregnancy is of high concern for fetus and this is the first reported case of COVID-19 presented as highlights the complex context of management.

Data Availability

No data were used to support this study.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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Ethical Approval

The study were reviewed and approved by Ethics Committee of Center of Tropical Medicine and Epidemiology Studies – Hodeidah University (CTMES – HU), Hodeidah, Yemen, Morocco.

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