

The first suspected case of Corona-virus in the mole of hydatidiform in southern Sistan-Baluchestan, Iran.

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Abstract

The first suspect coronavirus in hydatidiform molar pregnancy accentuates the importance of taking into account the symptoms of Coronavirus in pregnancy, collaboration among physicians of various specialties, the role of convalescence home in continuing outpatient treatment with the aim to prevent the spread of the virus in the family environment.

Key Clinical Message

Outbreak of Coronavirus has affected over throughout the world. This explains the treatment of molar hydatidiform suspected of coronavirus at the beginning of corona epidemic in Sistan and Baluchestan, Iranshahr. Understanding of the management suspected case of Corona-virus in the mole of hydatidiform is considerably important especially in pandemic.

Introduction

Coronavirus-induced respiratory diseases in human first reported in Wuhan, China on December 31, 2019 quickly broke out in other parts of China and other countries (1, 2). The entire human population is at risk for contracting coronavirus disease (COVID-19)(3). Given the immune and anatomical changes during pregnancy, pregnant women are more vulnerable to the virus. The COVID-19 pandemic can therefore cause serious consequences for pregnant women (4-7). The clinical features and effects of COVID-19 during pregnancy and the prenatal outcomes of COVID-19 patients have rarely been addressed in literature (8). Moreover, COVID-19 associated infections have never been reported in molar pregnancy (9). Clinical experience with managing pregnant women and newborns with COVID-19 is also limited in China(10).

Case presentation

On March 1, 2020, at 5:30 p.m., a 17-year-old primiparous woman with a gestational age of 14 weeks presented with unilateral leg swelling and sudden abdominal distension beginning in the night before to a health center in Sarbaz, Sistan-Baluchestan, Iran. The patient had a history of fever, abdominal pain, dry coughs and shortness of breath during the previous week and nausea, vomiting and fatigue during the previous two months and no family history of respiratory disorders. As a housewife who had not recently traveled, she did not report a history of hypertension, surgery, allergies and underlying diseases.

In the abdominal examination of the patient by a healthcare provider, the baby's heartbeat was not heard and a mismatch was observed between gestational age and fundal height, which corresponded to approximately 24 weeks of gestation. Her physical examinations also showed a body temperature of 37.5 @C, a blood pressure

of 140/90 mmHg, a heart rate of 119 bpm, a respiratory rate of 18 per minute and oxygen saturation of 97% at room temperature using an oximeter pulse. Moreover, the experiments showed HB=8.4 and urinary protein of +1. Given the blood pressure of 140/90 mmHg, four g of a 20% MgSo₄.7H₂O USP solution added to 100 ml of Ringer's solution was intravenously injected within 20 minutes and 10 g of a 50% magnesium sulfate solution was injected deep into muscles, 5 g at each buttock.(Table 1) After receiving a Foley catheter, the patient was transferred in an ambulance to Iran Hospital, Iranshahr, Sistan-Baluchestan as a referral center for pregnant women while receiving 6-8 l/min of oxygen in a left lateral recumbent position aided by a midwife.

At 9 p.m., the patient was admitted to the maternity ward. She was conscious and pale with hematuria, uterine contractions and vital signs of blood pressure=110/70 mmHg, pulse rate=99, respiratory rate=18, body temperature=37.3 °C and urine output=300 ml/hr. After inserting two IV lines into the left brachial vein (n=20) and the right radial vein (n=18) and performing the tests, the patient immediately underwent monitoring and was visited by a gynecologist. Vaginal examination showed a closed cervix with no bleeding. Moreover, the patient received 1000 ml of normal saline and underwent an ultrasound by a radiologist at 9:30 p.m. Complete molar pregnancy was diagnosed with an enlarged heterogeneous uterus 180×90 cm in size and containing 170×80 mm cysts. Afterwards, 400 µg of vaginal misoprostol (Cytotec) was administered. At 22:10, one unit of packed red blood cells (PRBCs) was administered due to HB=5, and the patient did not show any allergies or shortness of breath during the blood transfusion. Two units of PRBCs were also reserved for the following morning. Counseling was performed by an internist, a cardiologist and infectious disease specialist. The internist evaluated the patient for thyroid storm and signs of pulmonary thromboembolism. Stat anti-coagulant, hydration and hydrocortisone injection (stat and TDS) were administered. Thyroid tests, including TSH:0.2, T4:23 and T3:5.6, were also performed. No heart problems were observed in the patient during the cardiac counseling. The infectious disease specialist suggested the risk of lung metastasis due to molar pregnancy.

The patient was transferred for isolation to the corona ward at 22:50 given her risk of developing COVID-19. The treatment began with vancomycin AMP 1 g BID, hydrocortisone AMP 100 mg/ml STAT & TDS, oseltamivir CAP 75 mg for 5 days, kaletra CAP 200 mg for 5 Days and meropenem AMP 1000 mg TDS. The patient's body temperature and oxygen saturation respectively reached 37.4 @C at 98% an hour later.

The patient was provided with a surgical mask. All the healthcare team members were also provided with appropriate personal protective gear, and droplet and contact precautions were observed. The patient underwent monitoring at 00:00 a.m. due to dry coughs and respiratory distress. Her oxygen saturation reached 98% after undergoing oxygen therapy. The RT-PCR sample was taken using oral and throat swabs. The patient was found to be negative for COVID-19 based on the results of the RT-PCR. At 00:10 a.m., 1/3-2/3 IV fluid therapy started at 30 drops/min. At 4:30 a.m., the patient's urine output was below 100 ml/hr. The patient was transferred to the operating room the following day (March 2, 2020) at 6 a.m. while receiving the second unit of PRBCs. Suction curettage was performed to evacuate the uterus contents. During the curettage, the patient received 20 units of oxytocin in one liter of normal saline plus 0.2 mg of methylergonovine. Samples of the pregnancy products were transferred for pathological examinations.

The patient received the third unit of PRBCs on the second day at 8 a.m. Chest radiography performed by a radiologist at 8:20 a.m. showed multiple nodules in both lungs. After developing severe respiratory distress at 11:40 a.m., the patient was visited by an anesthesiologist, an infectious disease specialist and a gynecologist and then underwent oxygen therapy at 6-8 l/min with a mask. The patient was intubated at 13:30 and transferred with a respiratory rate of 52, a body temperature of 37 @C and a pulse rate of 170 to the ICU (Figure 1). Furthermore, CT scan was performed the following day at 16:00 due to shortness of breath, respiratory distress and lowered oxygen saturation (92%).

The CT scan showed bilateral ground glass patches (Figure 2), suggesting COVID-19. The patient then underwent hydration with 1500 ml of normal saline at 30 drops per minute and oxygen therapy at 8 liters per minute with a mask. The patient had a fever of 38.50 @C on the third day, i.e. March 3, 2020, at 18:00. The Apotel AMP was injected. Symptoms of the patient began to improve on the fourth day, i.e. March 4,

2020 (Figure 3).

Feeling fine on the fifth day, the patient was discharged from the hospital with a good general health status. The patient was followed up for two weeks at a private recovery center for patients discharged from the hospital. Given the problem of distance, weekly phone follow-ups were performed for 4 weeks after discharge, and the patient did not report any problems during the phone calls.

Discussion

A pregnant woman requiring mechanical ventilation was the first case with the clinical symptoms and CT scan of the lungs suggesting infection with coronavirus. Molar pregnancy confirmed in the second trimester increased the risk of developing COVID-19 and complicated her conditions. The patient did not report any underlying diseases. Fever, dry coughs and shortness of breath were observed in the patient as in the case of other patients with COVID-19 reported in the literature (3, 8).

Knowledge about the clinical spectrum of infection with COVID-19 is very limited in molar pregnancy (11). Despite negative test RT-PCR sample results, clinical findings and the CT scan of the lungs suggesting COVID-19 as a life-threatening condition do not interfere with the disease management (1). The overall effects of COVID-19 on pregnancy and neonatal outcomes and its long-term prognosis are recommended to be further investigated in future studies. Collecting the information of more COVID-19 patients with molar pregnancy can lay the foundations for developing clinical guidelines aimed at managing future cases.

AUTHOR CONTRIBUTIONS

All authors have read and approved the manuscript, and ensure that this is the case. MMH, SB, MZ, MSGM, EMT: involved in patient follow-up and management and final approval of the version to be published. SR, RJG and FA: involved in patient management and writing article, drafted the work, and substantively revised it. AP AND ZAK: involved in patient follow-up and management drafted the work and substantively revised it.

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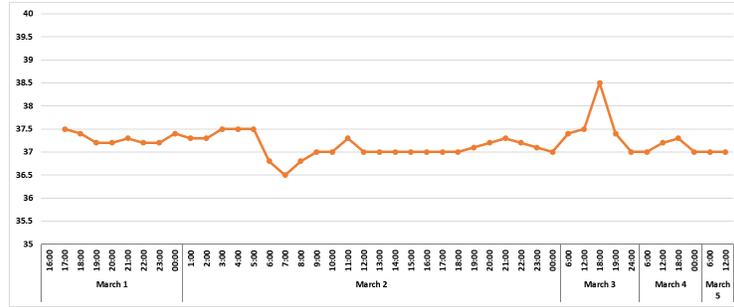


Figure 3. Body temperature recorded during hospitalization, March 1 to March 5, 2020.

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Table 1. Laboratory Data.

	Measure	Reference Range	March 1	March 2	March 3	March 4
CBC	WBC (cumm)	4-10	8.5	15.7	14.3	N.A.
	RBC (Mill/cumm)	4.2-5.4	1.9	2.96	3.48	N.A.
	Hemoglobin (g/dl)	10-16	5	7.3	8	N.A.
	Hematocrit (%)	35-40	15.3	20.7	24.3	N.A.
	Platelets (cumm)	150,000-450,000	182,000	107,000	115,000	N.A.
WBC Differential	Neut (%)		80%	89%	N.A.	N.A.
	Lymph(%)		18%	6%	N.A.	N.A.
Urin Analysis	Bacteria	-	Negative	N.A.	N.A.	N.A.
	PH	5-7	5	N.A.	N.A.	N.A.
	Specific Gravity	1.005-1.030	1.030	N.A.	N.A.	N.A.
	Proteins	-	Trace	N.A.	N.A.	N.A.
	Blood	-	3+	N.A.	N.A.	N.A.
	Ketone	-	Trace	N.A.	N.A.	N.A.
	WBC	-	2-3	N.A.	N.A.	N.A.
Biochemistry	RBC	-	Many	N.A.	N.A.	N.A.
	S.G.O.T (AST) U/L	<31	47	59	N.A.	N.A.
	S.G.P.T (ALT) U/L	<31	60	42	N.A.	N.A.
	Phosphatase Alkaline	64-306	36	268	N.A.	N.A.
	BUN (mg/dl)	7-20	11	18	12	N.A.
	Creatinine (mg/dl)	0.6-1.3	0.8	0.8	0.6	N.A.
	Bilirubin Total (mg/dl)	0.3-1	0.9	3.2	N.A.	N.A.
	Bilirubin Direct	0.1-0.3	0.3	1.9	N.A.	N.A.
	Lactate Dehydrogenase (LDH) U/L	<480	N.A.	962	N.A.	N.A.
	Creatine Phosphokinase U/L	24-170	N.A.	840	N.A.	N.A.
Colagulation tests	PT	12-14	14	13	N.A.	N.A.
	PTT	28	28	37	N.A.	N.A.
	INR		1.1	1	N.A.	N.A.
Hormone	TSH (mIU/L)	0.32-5.2	0.2	N.A.	N.A.	N.A.
	T4 (mg/dl)	4.7-12.5	23	N.A.	N.A.	N.A.
Immunology & Serology	T3 (ng/ml)	0.6-2.1	5.6	N.A.	N.A.	N.A.
	CRP	<10	N.A.	2+	3+	N.A.
Hematology & Coagulation Test	ESR (mm/hr)	15-20	N.A.	46	N.A.	57
	Beta HCG Titr in Serum		N.A.	183,700	N.A.	N.A.

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