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Pandemic Influenza A (H1N1) and Pregnancy: Two Reports

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Abstract

Objective: To discuss two cases who had Pandemic Influenza A (H1N1) virus infection in their pregnancies.

Case: Two pregnant cases in the third trimester were submitted to the hospital with high fever and dyspnea. These patients who were diagnosed as Pandemic Influenza A (H1N1) virus infection were delivered . The patients and newborns were followed up in the intensive care unit and were discharged uneventfully.

Conclusion: Pandemic Influenza A (H1N1) virus infection may proceed severe in the pregnancy. Early diagnosis and treatment are important.

Keywords: Pandemic influenza A (H1N1) infection, pregnancy.

Pandemik influenza A (H1N1) ve gebelik: olgu sunumu

Amaç: Gebeliklerinde Pandemik İnfluenza A (H1N1) enfeksiyonu geçiren iki olgunun klinik seyrini tartışmak.

Olgu: Üçüncü trimesterde gebeliği olan iki olgu, yüksek ateş ve nefes darlığı şikayeti ile hastaneye başvurdu. Pandemik İnfluenza A (H1N1) enfeksiyonu tanısı konulan hastaların doğumları gerçekleştirildi. Yoğun bakım şartlarında takip edilen anne ve bebekleri sorunsuz olarak taburcu edildiler.

Sonuç: Pandemik İnfluenza A (H1N1) enfeksiyonu gebelikte ağır seyredebilmektedir. Erken tanı ve tedavi önemlidir.

Anahtar Sözcükler: Pandemik influenza A (H1N1) enfeksiyonu, gebelik.

Introduction

Influenza viruses are RNA viruses from orthomyxovirus family. Influenza has three types as A, B, and C. Influenza A is separated subtypes hemagglutinin and neuroaminidase antigens. H1N1 virus is also the subtype of Type A influenza. Hemagglutinin virus is responsible for adsorption and neuroaminidase is responsible for the spread of virus.[1] Clinical profile has a course of fever, cough, sore throat, nasal flow, myalgia and diarrhea. Disease profile associated with secondary pneumonia may develop. Symptoms may arise within 7 days after being exposed to the virus. Although the disease has no complication in many pregnants, influenza morbidity risk is higher in pregnancy.[2] Taking the previous influenza pandemics into consideration, mortality rates are high especially at third trimester. In 1918 pandemics, 50% of 1350 pregnants got pneumonia and fatality rate was found as 27%.[3,4] Final diagnosis was found by reverse transcription polymerase chain reaction (TR–PCR) and virus culture.[3] Centers for Disease Control (CDC) suggests to use

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oseltamivir 75 mg for 5 days as 2 tablets per day. Though the gestational category of oseltamivir is C, no negative effect was reported on fetus and pregnants.[5]

Patients should be interfered in an isolated room by mask, gloves and protective clothing.

In this study, two pregnants admitted to our clinic and diagnosed with Pandemic Influenza A (H1N1) virus infection were presented and discussed in the light of the literature.

Cases

Case 1

Twenty-five years old pregnant with gravida 2, parity 1 and 28 weeks and 4 days of twin admitted to the hospital with complaints of high fever, sore throat and respiratory distress. Vital findings of the patient were normal except 38.0 ºC fever. In her obstetric ultrasonography, she had twin pregnancy conforming to the gestational week. Collum was found as closed in the obstetric examination. Her NSTs were observed as reactive. Rales were found in the respiratory system examination evaluating pulmonary diseases. The patient did not want to have a pulmonary radiography though she was informed that her belly would be protected by lead vest. Due to the suspicion of Pandemic Influenza A (H1N1) virus infection, oseltamivir 75 mg as 2 tablets per day and sulbactam – ampicilline 1.5 gr, 4x1 doses were initiated. Nasopharynx wipe sample was taken by provincial health directorate and our department was informed that the patient was positive for Pandemic Influenza A (H1N1) virus 48 hours later.

It was seen in the laboratory examination that AST value was 65 IU/L and ALT value was 87 IU/L while other laboratory values were found as normal. Betamethazone (6 mg and at the dose of 2 x 2 ampoule) was applied intramuscularly for fetal lung maturation. The patient was urgently taken to the cesarean at the 7th day of her hospitalization when respiratory distress increased in her clinical follow-up, oxygen saturations were below 90% despite the mask and nasal valve and oxygen treatment, AST and ALT values increased more, and late decelerations occurred at NST. Two living girls (1500 g and 1330 g) were delivered. The patient was taken to normal service when recovery was observed in her general condition after 48th hour of her postoperative follow-up. Her laboratory values regressed. The patient was discharged healthily 14 days later.

The first baby (1500 g) was intubated due the diagnosis of respiratory distress. Surfactant treatment was applied. Only oxygen treatment was applied to the second baby. Ampiric ampicilline and amicasin treatment was applied in order to prevent secondary bacterial infection. No reproduction occurred in blood cultures. Respiratory distresses of babies regressed and they were discharged healthily on 18th and 19th postpartum days.

Case 2

Twenty-six years old pregnant with gravida 7, no parity, and pregnancy evacuation 6 on her 35th gestational week admitted to the emergency service for respiratory distress and sore throat.

In the evaluation of the patient during the application, general status of the patient was moderate and the consciousness was open. Her body temperature was 37,6°C, respiration rate was 28/min, pulse was 130/min and oxygen saturation was 99%. There was asthma bronchial and smoking habit (20 package years) in the history of the patient. Single pregnancy was observed as compliant with gestational week in the obstetric ultrasonography. Collum was closed in the obstetric examination and NSTs were reactive. The patient was hospitalized in the service by the diagnosis of Pandemic Influenza A (H1N1). The patient was taken into follow-up and treatment in an isolated room in

service conditions by taking protection precautions for health personnel. Oseltamivir treatment was initiated, and nasopharynx wipe sample was taken. Her lung radiography was taken by protecting her belly with a lead vest. There were pneumonic infiltration diagnoses in the lung radiography. Sulbactam–ampicilline, steroid, and bronchodilator treatments were initiated for thoracic diseases. Since oxygen saturation values continued to reduce despite the oxygen treatment under service and her general condition deteriorated, the patient was taken to urgent cesarean and a 2440 g living boy was delivered. Oxygen treatment was applied and the patient was discharged healthily on postpartum 3rd day. Postoperative follow-up of the patient was performed in the intense care unit and respiratory support was provided by mechanical ventilator.

Wipe sample taken by provincial health directorate was reported to our clinic as Pandemic Influenza A (H1N1) virus infection.

The patient was connected to mechanical ventilator for 8 days. No reproduction was observed in the blood, urine and tracheal aspirate samples of the patient. The patient with regression in the infiltration of her lungs according to the thorax computed tomography was extubated. When the spontaneous respiration of the patient became normal, she was discharged on the 11th day of her hospitalization.

Discussion

Maternal and fetal risks associated with Influenza virus infection at pregnancy are at high rates due to hormonal, immunological and mechanical changes occurred.[6,7] Like in our cases, complication and hospitalization rates increases as gestational week increases.[8]

CDC reported mean hospitalization period as 2-15 days for Pandemic Influenza A (H1N1).[9] This period was 11 and 14 days in our cases. The existence of asthma bronchial and smoking habit in the history of our second case caused infection clinic to proceed rapidly and become more severe.

No other reason except Pandemic Influenza A (H1N1) virus infection was found to explain the increase of liver transaminases in the first case. Serum bile acids and normal thrombocyte and LDH levels supported transaminase increase associated with infection. Transaminase increases associated with influenza infection were reported by Monto et al. The increase in transaminase levels shows that clinical profile may follow an atypical route.[10]

The full effect of maternal influenza infection on fetus is not known completely today. It was shown that the risks of cerebral palsy, encephalopathy and neonatal death increased in the babies of mothers who had high fever.[11,12] This case affected the delivery decisions of current cases. No clinical and laboratorial findings of infection were found in the postpartum follow-up of the babies. Support treatment was applied in terms of prematurity. Breast milk was given when enteral feeding was initiated. No additional fetal antiviral treatment was applied due to maternal antiviral treatment. More cases are needed for the observation of Pandemic Influenza A (H1N1) virus infection at pregnancy. We wanted to present these two cases as they might be helpful in diagnosis and treatment planning of such infections at pregnancy.

Conclusion

Chemoprophylaxis and early hospitalization if needed should be considered within first 48 hours in the existence of clinical suspicion since Pandemic Influenza A (H1N1) virus infection may progress slowly at pregnancy. It can be suggested that this is the reason for non-existence of mortality in our current cases.

Antiviral treatment and vaccination at pregnancy should be suggested by taking benefit-harm balance into consideration.

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