

Novel Influenza H1N1 in Pregnancy: Report of a Diagnosed Case in Bangladesh

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Abstract

Category C pandemic flu 2009 (H1N1 influenza), the disease that has reached pandemic proportions, holds everyone at risk today H1N1 influenza and pregnancy together, poses a greater risk for pregnant women and this deserves special attention. A swine flu pregnancy can be life threatening for both the mother and the baby. During the current pandemic of H1N1 influenza, few cases of H1N1 have been reported in pregnancy cases. We report one interesting case of H1N1 influenza, which was the only confirmed case of H1N1 Flu who survived with pregnancy in Bangladesh. Widespread vaccination, when available, prompt diagnosis, and adequate treatment with antiviral medications when infection occurs can save the life of the mother and the baby.

Keywords: Novel influenza H1N1, pregnancy

Introduction

Although the name 'swine flu'¹ brings up a lot of extra fear and worry, it is influenza A H1N1 virus, which causes typical seasonal flu symptoms¹. But current swine influenza A (H1N1) virus is new and most of us don't have any immunity to it. That is why it so easily became a pandemic virus with the ability to cause a global outbreak. Pregnant women are considerably more likely to develop serious complications from H1N1 flu. The World Health Organization states that up to 10% of all hospitalized patients with H1N1 flu are women who are more than three months pregnant. In pregnancy, the immune system is naturally suppressed². This means that pregnant women are more likely to catch H1N1 flu, and if they do catch it, they are more likely to develop complications. The pregnant woman experiences innumerable changes in her lung functioning, in the second and third trimesters of her pregnancy period. An enlarged womb leaves little room for the expansion of the lungs and restricts coughing capacity. The lungs feel constricted and its slacked functioning impairs its natural ability to deal with airborne flu viruses. Most pregnant women experience breathing difficulties during pregnancy, but a swine flu pregnancy just makes it critically worse³. The swine flu pregnancy risks include the risk of pneumonitis. Swine flu in pregnancy also increases

the risks of dehydration, due to diarrhea and vomiting, in the mother.

In pregnant women, these are more likely to happen in the second and third trimester. If a pregnant woman develops a complication of H1N1 flu, such as pneumonitis, this will lead to premature labour or miscarriage. There is not yet enough information to know precisely how likely these birth risks are.

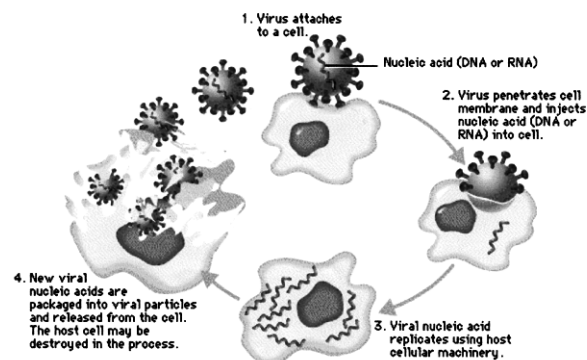


Fig - 1: H1N1 virus replication

Case

Mrs. Sazedra Rahman 32 years old, Para 1(LS.C.S) + 1(sp. Abortion), 3rd gravida admitted on 23rd September '09 was presented with pregnancy for 36

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weeks, fever, running nose and cough for three days and respiratory distress for one day. Her L.M.P was on 11-01-09 and accordingly her E.D.D was 18-10-09. She was in regular antenatal checkup and is a member of a high socio economic family. Her pregnancy was uneventful. But for last three days she had developed low grade continued fever. Her fever was associated with generalized body ache and was not associated with chills & rigor or joint pain & she had no rash. Fever was relieved after taking paracetamol Patient also suffered from running nose and cough. Cough was initially dry but later on it became productive with yellowish colored sputum. She had mild respiratory distress for last one day which aggravated on lying & reduced on sitting position. She had no diarrhea or vomiting or no H/O burning sensation during micturition. She was a known case of B- thalassaemia minor & has undergone total thyroidectomy due to multinodular goiter and is on tab thyroxin [100 microgram daily]. On Examination, the patient was anxious and ill looking & flushed. Her built was average, she was cooperative and felt comfort on sitting position. She was mildly anemic, her pulse rate was 96beats/min, BP 130/80 mm of Hg and temp was 102°F. Examination of respiratory system revealed Respiratory rate was 22 breaths /min with mild dyspnoea. Coarse creps was present in both lungs in mid & lower zones.

On per abdominal examination symphysiofundal height was 36 cm and presentation was Cephalic & head was not engaged. Her FHR was regular, 136 beats/min. Other systemic examination revealed normal findings.

Her inv finding was; Total count of WBC on 24/09/09: 7600/Cu, Mm; Polymorph: 65%; lymphocytes: 31%; Hb: 10.3 gm/dl; S. free T4 level on 10-09-09: 0.9 nano gram /dl; S. TSH level on 10-09-09: 5.6 micro IU/ml; Chest X-ray PA view (with shield) revealed cloudy opacity in all zones of both lung fields suggestive of bilateral pneumonitis. Her Nasal swab was collected & sent for PCR for H1N1 Virus on 26-09-09 & finding was Positive. So, she was a diagnosed case of Pandemic Flu 2009 Category C.

An emergency board was arranged immediately. The members of the board were a pulmonologist, a member from the national core committee for swine flu, an ICU specialist & a gynecologist. They advised as follows:

Strict isolation in cabin; Minimum number of care provider (preferable single) with maximum service; N95 mask for patient, her attendants & health providers; SPO2 monitoring; Regular monitor of vital signs; Inj Meropenem 1 gm 1 amp IV 12 hrly; Inj Amikacin 500 mg 1 amp IV 12 hourly; Double dose of Tami flu 75mg 2 cap 12 hourly for 5 days; Immediate caesarian section; Arrangement for ICU care for mother if required.

Emergency LSCS was done on 26-09-09 at 8:55 pm under spinal anesthesia. All the members of the operation team used N95mask. A female baby of 2,1 kg, with good APGAR score was delivered. Baby was treated with Osaltamivir (2mg/kg body wt) prophylactically. Her post operative period was uneventful. Her cough subsided during 7th POD. She was discharged from hospital on 9th POD with healthy baby & with advice to come for postnatal follow up.

Discussion

The discussion about the case, suggest that, as with seasonal influenza, pregnant women constitute a population at risk for morbidity and mortality. Patients with H1N1 viral infection present with acute respiratory symptoms - dry cough sore throat, nasal congestion, and fever. Almost one third of them report contact with an ill individual on admission⁴. The symptoms are nonspecific such that it is not surprising that many patients later confirmed to have swine flu (including those in our report), had their symptoms attributed to the common cold when they had been seen earlier^{5,6}. The Centre for Disease Control [CDC] recommends that clinicians should use nasopharyngeal swabs for rapid detection of antigens for influenzas A and B in patients with fever and respiratory symptoms. If influenza A virus infection is found, the specimen should be sent to a state public health laboratory for additional testing to identify H1N1 virus using the real-time PCR technique which is currently recommended for laboratory confirmation of H1N1 viral infection [8]. Antiviral therapy is often delayed for pregnant patients^{7,8} and it should be reinforced that antiviral therapy should be started as soon as possible based only on clinical presentation of fever and sore throat or cough without waiting to obtain results of laboratory testing, unless another cause of symptoms is reasonably suspected⁹. It is preferable to start antiviral therapy within 48 hours of the first influenza-related symptoms and continue for 5 days.

H1N1 virus is sensitive to both oseltamivir (75 mg twice a day) and zanamivir (two 5mg inhalations twice a day)¹⁰. Due to systemic absorption and more experience with oseltamivir, it is the preferred medication. The benefit of treating the influenza outweighs any the theoretical risk for the fetus. In addition to an antiviral preparation, acetaminophen should also be started because fever may be associated with neural tube defect, neonatal seizures, encephalopathy, cerebral palsy, and neonatal death^{11,12}. It is recommended to treat severe cases of H1N1 infection in a hospital, using respiratory support with supplemental oxygen and mechanical ventilation as required. Antibiotic supplementation should be guided by the presence of pneumonia depending on the patterns of resistance in the region¹³. Since pneumococcal pneumonia is frequently a secondary invader, pregnant women who are in risk groups should also be vaccinated against that organism. Current CDC recommendation suggests that pregnant women who had contact with someone suspected of infection with novel H1N1 influenza virus should receive prophylactic treatment with either oseltamivir (75 mg daily) or zanamivir (two 5 mg inhalations daily) for 10 days. The CDC states that zanamivir is preferable due to its low systemic absorption, but because of its inhaled route of administration, respiratory complications must be considered¹⁴. The advisory committee on immunization safety recommends that pregnant women be included in primary targeted groups for vaccination¹².

Vaccination is also recommended for household contacts of pregnant women; however, chemoprophylaxis is not indicated for otherwise healthy people exposed to influenza. Early empiric treatment should be started if symptoms arise¹³ currently all subtyped influenza A viruses reported to CDC (99% of all specimens sent to CDC) are H1N1¹⁴. Obstetricians should be prepared to diagnose and rapidly treat H1N1 and, now with the availability of H1N1 vaccine, to be proactive with vaccination programs to stop the spread of the infection.

Conclusion

The combination of H1N1 influenza (swine flu) and pregnancy is potentially risky. If someone are pregnant and think she may have H1N1 flu or had close contact with someone who has known or suspected H1N1 flu, recommend treatment with an antiviral medication

known to be effective against the virus- oseltamivir (Tamiflu), zanamivir (Relenza), as inhaler. Ideally, the medication should be started within 48 hours of development of symptoms.

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