

Case Report

Influenza A Viral Infection with Septic Shock in Pregnancy

Soe Lwin ¹, Myat San Yi ¹, May Shi Leong,² Haris Suharjono,² and Tin Moe Nwe³

¹Department of Obstetrics & Gynecology, Faculty of Medicine and Health Sciences, UNIMAS, Malaysia

²Department of Obstetrics & Gynecology, Sarawak General Hospital, Malaysia

³Department of Basic Health Sciences, Faculty of Medicine and Health Sciences, UNIMAS, Malaysia

Correspondence should be addressed to Soe Lwin; lsoe@unimas.my

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The influenza virus is RNA virus and is classified into four subtypes, influenza A, influenza B, influenza C, and influenza D. One of the subtypes of influenza A, the H1N1 strain, also known as swine flu, is especially of high risk for development of complications in pregnant women. The influenza A virus infection is difficult to diagnose clinically because its presenting symptoms are similar to those of the common cold but are more severe, last longer, and can be potentially life-threatening. This case also presented with common cold symptoms but her condition worsened later. Fortunately, obstetric health providers were vigilant enough to address the developing infection and its related complications. It was the cooperative effort of multidisciplinary team care which resulted in a favourable outcome in both mother and baby.

1. Introduction

Influenza virus is a single-stranded, enveloped RNA virus from *Orthomyxoviridae* family. Its incubation period is 2-5 days and the transmission is mainly air-borne, i.e., droplet inhalation or direct transmission or contact through hands and fomites. It is classified into four distinct generations such as influenza A, B, C, and D depending on antibody responses to glycoproteins, *hemagglutinin* (HA), and *neuraminidase* (NA) on the surface of the viruses [1].

One of the subtypes of influenza A, influenza A (H1N1) strain called swine flu was first identified in April 2009 and the outbreak has since reached pandemic status at that time [2, 3]. So far, there have been 4 pandemic attacks worldwide: Spain in 1918 (unknown strain but suggestive of avian-like H1N1), Asian flu in 1957 by H₂ N₂, in Hong Kong in 1968, and Mexico in 2009. After each pandemic attack, healthcare personnel have become more aware of its lethal complications. In Malaysia, the avian influenza virus (AIV) (H5N1) outbreaks occurred in 2004, 2006, 2007, and 2017 in the state of Kelantan, Perak, and Pulau Pinang [4].

The influenza virus infection presents with fever, cough, sore throat, rhinorrhea, headache, myalgia, vomiting, and diarrhea. Pregnant women are at especially high risk of the

development of complications of H1N1 influenza A. This increased risk is related to several physiological changes during pregnancy including alterations in the cardiovascular, respiratory, and immune systems. The serious illness and hospitalization rates of women with influenza during pregnancy have a 4- to 5-fold increase compared to nonpregnant women [2, 5–8]. Qi et al. (2014) stated that pregnant women are particularly susceptible to severe complications from influenza and have a greater mortality risk.

Influenza A infection is diagnosed by obtaining an upper respiratory specimen (nasopharyngeal swab, nasal aspirate, or a combined nasopharyngeal swab with oropharyngeal swab or throat swab) to test for novel influenza A (H1N1) virus. The specimen should be placed into sterile viral transport media and immediately placed on ice or cold packs or at 4°C (refrigerator) for transport to the laboratory and the virus is identified by real-time polymerase chain reaction (RT-PCR) or viral culture method [9, 10].

2. Case Presentation

A 26-year-old female, period of gestation of 35 weeks and 6 days into her third pregnancy, presented with contraction pain which was increased in intensity and frequency. She