

Viral Pneumonia in Pregnancy: Epidemiology, Management and complications

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ABSTRACT:

Pneumonia is a significant respiratory infection that can affect pregnant individual by pulmonary adaptation of the body that cause the excessive fluid in lungs, in most of the cases they are affected by bacterial pneumonia *Streptococcus pneumoniae*, *Mycoplasma pneumoniae*, and *Haemophilus influenzae*. In this article it is discussed above the etiology of the viral pneumonia by Influenza and varicella-zoster virus (VZV), epidemiology and how the impact is shown in pregnant women compared to the non-pregnant variable affected by the pneumonia. Article also gonna discuss about the management of the viral pneumonia in pregnancy.

Key words: Pneumonia; pulmonologist; *Mycoplasma pneumoniae*; *Haemophilus influenzae*; VZV;

I. INTRODUCTION:

Pregnant individuals experience changes in their immune and respiratory systems, making them more susceptible to infections such as pneumonia. The course of influenza in pregnancy was reported first during the epidemic of 1918, when 1350 cases in pregnant women who had an influenza-like illness were evaluated. Pneumonia complicated 585 (43%) of the cases. In 52% of these patients, the pregnancy was interrupted. There were 308 (23%) maternal deaths.

Epidemiology:

Pregnant women seem to be at increased risk for influenza pneumonia. VZV pneumonia is rare but potentially lethal, with mortality rates of 35-40% in pregnant women, compared with 10% in the general population.

Other respiratory viruses, including rhinovirus, coronavirus, parainfluenza viruses 1-4, and human metapneumovirus, have recently been identified as causes of febrile respiratory viral infections in pregnant women.

During the influenza pandemic of 1918, remarkably high rates of spontaneous abortion and preterm birth were reported especially among women with pneumonia, in one study, >50% of pregnancies in which the pregnant woman had influenza and accompanying pneumonia were not carried successfully to term.

During the influenza epidemic of 1957, 22 pregnant women in New York City and 11 in Minnesota died due to respiratory insufficient secondary to the pulmonary edema and pneumonia.

VZV is a DNA virus that affects 0.7 per 1000 pregnancies. Pneumonia is the most common complication in adults, and it occurs in 10% of cases. Before the availability of antiviral therapy, mortality in pregnant women who had VZV pneumonia was as high as 35% to 40%.

Management:

Balancing the well-being of the mother and the fetus is crucial in managing pneumonia during pregnancy. The treatment of pneumonia is similar to the non-pregnant patient and the first line therapy drugs are given to fight with pathogens I.e. *S. pneumoniae*, *H. influenzae* for typical bacterial pathogens and *M. pneumoniae*, *Legionella pneumophila* or *C. pneumoniae* for atypical bacterial pathogens. Therefore, considering the agent's safety and efficacy cephalosporins and macrolides (erythromycin or azithromycin) are the choice for community-acquired pneumonia.

The fluoroquinolones, commonly used in non-pregnant patients, are avoided because of the risks of arthropathy and malformations proved in animal studies. Other drugs to be avoided are aminoglycosides, secondary to the risk of fetal ototoxicity, tetracyclines because of the association with bony deformities, teeth deformation and staining, maternal fulminant hepatitis, vancomycin due to fetal nephrotoxicity and ototoxicity, chloramphenicol because it can cause circulatory collapse – 'gray baby syndrome'.

As compare to these above medication it is good to prefer Maternal immunization as it is increasingly recognized as a safe and effective intervention to boost antibody levels during pregnancy and increase levels of transplacental antibody transferred to the fetus . Until infants are several months old, they are generally unable to mount an effective immune response to vaccination or infection or they require several doses of vaccine, leaving a window of vulnerability for serious infections.

Complications:

If the pneumonia in the early stage symptoms (cold , heavy cough ,chest pain and having chills) is neglected it prognosis to severe pneumonia it can has lethal effect on both mother and child as for the mother Oxygen levels fall as the lungs cannot produce enough oxygen (hypoxia). This could lead to congestion where fluids accumulate around the lungs, and the infection may spread to other parts of the body, including the bloodstream. It may also lead to a collection of pus in the pleural cavity, also called empyema. This may also lead to the miscarriage of the child in early pregnancy. As for the child low birth weight and premature birth may happen.

II. CONCLUSION:

Pneumonia in pregnancy can cause a lot of complications like having miscarriage and premature birth even in the case of bacterial caused or viral caused the care taken in the pregnancy should not have any negligence. They should take proper care and well healthy diet and prefer maternal immunization. Healthcare providers can offer effective diagnosis, management, and follow-up care to ensure the best possible outcomes for both the mother and the fetus.

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