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Opinion Article

Pathophysiology and Causes of Maternal Sepsis

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ABOUT THE STUDY

The WHO revised the definition of maternal sepsis in 2017. Now WHO defines maternal sepsis as "organ dysfunction resulting from infection during pregnancy, childbirth, post-abortion, or postpartum period" which has 42days when the maternity has terminated. This revised definition explains the cause of the infection need not be directly connected to the condition of pregnancy. Instead, any illness those results in sepsis during pregnancy or after childbirth would be referred to as "maternal sepsis." Sepsis causes maternal morbidity and mortality. Sepsis could be a leading cause of maternal death and morbidity. Maternal sepsis happens because of a serious bacterial infection of the female internal reproductive organ throughout physiological condition or at once parturition. Maternal sepsis mainly afflicts women in developed countries, like UK, US. In UK 8% risk of mortality across Hospital Incident Command System (HICS). The estimated mortality and morbidity ratio is 50:1. And it causes infection due to Mastitis (one or both breasts),miscarriage, preterm delivery, membrane rupture due to prolonged or obstructed labor, Cesarean/C-section, non-sterile abortion, stillbirth, multiple gestations (twins or more), pneumonia, strep throat, urinary tract infection.

Sepsis doesn't arise on its own. It comes from another medical condition, like a disease in the lungs, urinary tract, skin, abdomen or other part of the body. Invasive operations like the inclusion of a vascular catheter can bring microscopic organisms into the circulatory system and leads to infection. A wide variety of microorganisms can cause sepsis, including microbes, parasites, fungi, and viruses, but bacteria are the most common culprits. Serious cases frequently result from wide infections that spread through the circulation system, however infection also can affect through some localized infections.

The causative organisms for sepsis have evolved over many years. Initially sepsis was described as a disease specifically associated with gram-negative microorganism. This is because due to response of endotoxins. Endotoxin is a molecule felt to be relatively specific for Gram-negative bacteria. In fact some previous studies of sepsis showed that Gram-negative microorganisms were among the most widely recognized reasons for sepsis. This resulted to focus on the combination antibiotic therapy and endotoxin therapies which were helpful in the treatment of sepsis. Recent epidemiology studies shows that Gram-positive organisms superseded Gram-negatives in mid-1980s, which has been widely recognized in the region of United States. According to the recent estimations, there are around 200,000 cases of Gram-positive sepsis and approximately 150,000 cases of Gram-negative sepsis every year. The causes for fungal sepsis have developed at a rapid pace. Due to the increasing severity of sepsis, these patients should be treated under doctor's supervision or it may reflect the effective treatment of bacterial infections.

CONCLUSION

In its most severe type, infection is related to irreversible multiple organ failure and death. The pathological process is complex process. In pregnancy physiological and immunologic adaptations are designed to development of the fetus or may impair maternal capacity to respond infections. For example, physiological hyperventilation in pregnancy, which is generally said to be secondary to Lipo-Lutin (progesterone), leads to respiratory alkalosis which is reduced by an increase in the excretion of renal bicarbonates. Accordingly, pregnant women could also slightly be able to buffer the acidosis that is caused by infection. Moreover, the main physiological changes that occur due to the maintenance of a healthy condition during pregnancy mimic those of early sepsis.

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