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Commentary

Cytomegalovirus Infection in Pregnant Women and Infants

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DESCRIPTION

Congenital and perinatally acquired viral infections can cause severe impairments in children and infants, while being significantly less prevalent than bacterial illnesses. TORCH is an acronym for Toxoplasma gondii, rubella virus, Cytomegalovirus (CMV), and herpes viruses, which are all potential causes of congenital infection. Other acronyms, such as "Cheap TORCHES," have been developed to incorporate perinatally acquired infections. Volpe prefers the name SCRATCHEZ, which includes syphilis (S) AIDS (A), chickenpox (C), enterovirus (E), and Zikavirus (Z). While congenital rubella virus syndrome is no longer common in nations where the virus is still subject to mandatory vaccination, an outbreak of the Zika virus (ZIKV) that caused brain lesions similar to but more severe than congenital CMV infection recently occurred in Brazil. While these infections happen inside the uterus, perinatal infections are viral illnesses that happen days to weeks after the baby is born. Parechovirus, Entero Virus (EV), rotavirus, and other perinatally acquired viruses may cause damage, particularly to the white matter. In a nationwide cohort, the incidence of bacterial CNS infections was estimated to be 0.21 per 1000 live births, but the incidence of viral CNS infections was estimated to be 0.05 per 1000, with virus identification occurring in roughly 50% of cases. It has been noted that there has been an upsurge in laboratory-confirmed viral meningoencephalitis since the development of Polymerase Chain Reaction (PCR), for example for EV and parechovirus.

Everywhere in the world, CMV, a DNA virus that belongs to the herpesvirus family, infects people of all ages without showing any obvious symptoms. One of the most prevalent and dangerous congenital infections is CMV. In poorer nations and among people with lower socioeconomic position in developed countries, this congenital infection is more common. There is a range of incidence of 0.3% to 0.7%. By late adulthood, 40% to 90% of people have had a CMV infection, with people from low socioeconomic backgrounds having the highest prevalence. Nevertheless, a sizable portion of reproductive-age women are still CMV seronegative, putting them at risk for primary CMV infection during pregnancy. With the first child getting sick in the nursery, the risk of infection is particularly significant with a second pregnancy. Because of this, it is crucial to provide pregnant women with information about hygiene. However, many of them have never heard of CMV infection or been taught about any potential preventative measures. When pregnant women at risk for primary CMV infection were provided cleanliness advice, a lower seroconversion rate was observed in a mixed interventional and observational controlled trial. Recent research indicates that maternal immunity before conception cannot be considered protective. Congenital CMV infection can result from a nonprimary infection caused by reactivation of an endogenous strain or reinfection with a novel CMV strain in women with preconceptional immunity. In a prospective trial, about 12,000 samples of saliva were taken after birth. Of these, 0.37 percent showed signs of congenital CMV infection, 52% showed signs of main infection, 48% showed signs of nonprimary infection, and 21% and 19%, respectively, had symptoms. However, it was discovered that main versus nonprimary maternal CMV infection was associated with a higher rate of aberrant brain sonographic findings (76.8% *vs.* 8.3%, $P<0.001$).

Congenital infections affect between 30% and 40% of infants whose mothers get primary infections while pregnant. It has been estimated that 10% to 15% of infected children have CMV-specific symptoms at birth. 40% to 60% of children with symptoms go on to develop long-term consequences. It was anticipated that 10% to 15% of infants without symptoms at birth go on to acquire lasting sequelae, the most common of which is progressive sensorineural hearing loss. Both primary and nonprimary infections carry the same risk of progressive hearing loss.

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