

New Study Examines CMV Shedding Patterns in Healthy CMV-Seropositive Children

Cytomegalovirus (CMV) is a highly contagious virus that is spread by direct contact with bodily fluids. To better understand potential transmission risks from contact with the body fluids of children, a [recent study](#) monitored weekly and daily CMV shedding patterns in healthy CMV-seropositive children.

Researchers selected study participants for longitudinal follow-up from a sample of healthy children aged 0 – 47 months. The participants were selected from the Atlanta, Georgia metropolitan area and did not have a diagnosis of congenital CMV infection. To meet the follow-up criteria, the children had to test positive for anti-CMV IgG; 50 of 161 children qualified. Of these children, researchers enrolled 23 of 25 who also tested positive for CMV DNA in saliva and/or urine. In addition, the study included some CMV-seropositive non-shedders, allowing researchers to assess spontaneous initiation of shedding.

During the course of the study, each child received 12 weekly in-home visits at which field workers collected saliva and urine. During the final two weeks, parents also collected saliva and urine samples daily.

The study found that children who had contracted CMV and were shedding at the first screening visit continued to exhibit occasional shedding in weeks 11 and 12. In addition, children shedding at the screening visit had CMV DNA in 84% of follow-up saliva specimens and 28% of follow-up urine specimens. Median and mean viral loads did not change substantially over time, but shedding occurred at higher viral loads among younger children. These finding suggests that young CMV shedders pose an ongoing risk to pregnant women.

Another significant finding was the surprisingly high viral loads in the saliva of healthy young children. Of the 502 CMV DNA-positive saliva samples collected, [nearly half contained greater than 100,000 copies/mL and more than one quarter had greater than \$1 \times 10^6\$ copies/mL](#). While [several studies](#) have measured CMV viral loads among children with congenital CMV infection, only two [previous studies](#) have measured viral loads among healthy children. This is significant because healthy children are most likely to infect pregnant women due to behavioral habits like sharing food or utensils.

Using this data, researchers hope to encourage behavioral changes in women who may be unaware of the risks posed by CMV. CMV infection is [a significant cause of birth defects](#) and developmental disabilities, including hearing loss, vision loss, and intellectual disability. Although congenital CMV infection is among the



most common causes of developmental delays, few women are aware of the virus and the hygienic strategies needed to [prevent transmission](#).

[According to the Centers for Disease Control and Prevention](#) (CDC), simple measures like frequent hand washing after contact with young children, kissing children on the forehead rather than the lips, avoiding the sharing of food or beverages, and disinfecting toys and countertops can help prevent the spread of CMV.

Preventing primary or re-infection of CMV through behavioral changes is of great importance, especially for women of childbearing age. While there is currently no licensed vaccine or established treatment plan for pregnant women, the [Institute of Medicine](#) ranks development of [a vaccine to prevent CMV](#) as a “highest priority” item.

Receive email alerts when VBI releases important news and insights: <http://www.vbivaccines.com/subscribe>

About VBI Vaccines Inc.

VBI Vaccines, Inc. (“VBI”) is a biopharmaceutical company developing novel technologies that seek to expand vaccine protection in large underserved markets. VBI’s eVLP vaccine platform allows for the design of enveloped (“e”) virus-like particle (“VLP”) vaccines that closely mimic the target virus. VBI’s lead eVLP asset is a prophylactic Cytomegalovirus (“CMV”) vaccine; VBI has initiated work for GMP manufacturing of its CMV candidate for use in formal preclinical and Phase I trials. VBI’s second platform is a thermostable technology that enables the development of vaccines and biologics that can withstand storage or shipment at constantly fluctuating temperatures. VBI has completed proof of concept thermostability studies on a number of vaccine and biologic targets. VBI is headquartered in Cambridge, MA with research facilities in Ottawa, Canada.

- Website Home: <http://www.vbivaccines.com>
- News and Insights: <http://www.vbivaccines.com/wire/>
- Subscribe for Email Updates: <http://www.vbivaccines.com/subscribe>
- Investors: <http://ir.vbivaccines.com/>