

Detection of Congenital Cytomegalovirus Infection

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As Director of the Division of Pediatric Infectious Diseases at the University of Minnesota, I investigate viral infections in newborn infants. My research program studies the epidemiology and pathogenesis of congenital cytomegalovirus (CMV) infection in the State of Minnesota. This infection is a major public health problem in newborns today, much as the German Measles (Rubella) was for infants a generation ago, prior to development of a Rubella vaccine. There is no licensed CMV vaccine, so we must rely on detection, and early intervention.

Some key facts about CMV infection in newborn infants:

- CMV is the most common congenital viral infection, affecting up to 2% of all newborn infants
- CMV is the most common infectious disease cause of mental retardation in infants, and is second only to Down's syndrome as an identifiable cause of mental retardation in infants.
- CMV is the most common infectious cause of deafness in newborns, and may be responsible for up to 40% of all deafness in infants.
- Newborn hearing screening will miss the majority of cases of deafness caused by CMV, since over half of all infants who go on to develop hearing loss from CMV will actually have normal hearing at birth. Thus, newborn CMV screening programs are needed to identify babies who could benefit from closer surveillance and early intervention.

In collaboration with the Minnesota Department of Health's Newborn Screening Program, we conduct pilot screening tests for CMV infection, by looking for the presence of viral DNA in anonymous newborn blood spots. The Institutional Review Board reviewed our project, which the March of Dimes Birth Defects foundation funds. I am very grateful for the support of the State Newborn Screening Program in moving this important work forward, and I look forward to continued collaboration in the investigation of this important public health problem. Many experts in the field believe that CMV screening will become part of the standard newborn screen in the near future. The State of Minnesota can be a national leader in advancing this important public health in advancing this important public health initiative.