

Early diagnosis of maternal cytomegalovirus for improved management and reduced risk of fetal transmission and complications

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Babies born with a cytomegalovirus infectious, or congenital cytomegalovirus (cCMV), can be at higher risk for serious complications as cCMV is the leading cause of non-genetic hearing loss and neurodevelopmental disabilities in children. Despite the high risk of complications, cCMV is often under-recognized by many health authorities and remains relatively unknown to the public. Approximately 1 out of 3 women will pass CMV to their unborn baby in cases of primary infection during pregnancy¹. Mothers with past CMV infections can also transmit the virus to their fetus in case of reactivation or reinfection (called secondary infections).

Diagnosis of cCMV can be complex as newborns can present along a spectrum of severity. Of babies born with cCMV infections, it is estimated that 90% will be asymptomatic for the infection and suffer no health impairments or visible delays². Conversely, some asymptomatic newborns may have hearing loss, mild vision loss and/or communication delays. Lastly, for babies born with symptoms of CMV, severe complications can arise. These complications can be devastating and can include vision and hearing loss, microcephaly, enlarged spleen and liver, and in some cases, death. Currently, no standard exists for universal CMV screening during pregnancy, and in many countries, routine CMV screening during pregnancy is not recommended. Additionally, due to the lack of newborn screening for CMV, the virus' prevalence and impact are likely much higher than current estimates reflect.

An integrated care team at National Reference Center for Herpesvirus, University Hospital Center, Limoges, France, sought to change the paradigm through adoption of a universal CMV screening program for pregnant mothers to improve early diagnosis of CMV infections and identify those with non-primary infections. Since inception of their Universal CMV screening program in 2020, the number of pregnant women identified with a CMV infection has increased by 16 (from 10 CMV positive expectant moms to 26 CMV positive expectant moms, a 2.6-fold increase in the identification of maternal CMV post-screening over 2.5 years). Broad adoption of the program enabled earlier neonatal management by initiating antiviral treatment in 68% of eligible CMV positive pregnant mothers during the first trimester of pregnancy.

Additionally, active CMV education and implementation of CMV prevention pamphlets in all obstetrics and gynecology departments increased patient awareness. The initial successes of this initiative have enabled rollout at 7-additional hospitals in France and is now planned for implementation in other French hospitals.



1. National CMV Foundation (2022) "91% Of Women Do Not Know about CMV." National CMV Foundation – Cytomegalovirus (CMV) | National CMV Foundation. Available at: www.nationalcmv.org/

2. Ronchi et al. Evaluation of clinically asymptomatic high risk infants with congenital cytomegalovirus infection. J Perinatol. 2020 Jan;40(1):89-96. doi: 10.1038/s41372-019-0501-z