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Congenital CMV, IQs, and Academic Achievement: Where Do We Go From Here?

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Congenital CMV (cCMV) infection is the most common congenital infection and a well-known cause of sensorineural hearing loss (SNHL). However, the long-term impact on child development and intellectual outcomes of children with asymptomatic cCMV infections is largely unknown.

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Congenital CMV (cCMV) infection is the most common congenital infection and a well-known cause of sensorineural hearing loss (SNHL). However, the long-term impact on child development and intellectual outcomes of children with asymptomatic cCMV infections is largely unknown. Studying this impact is particularly difficult as nearly 90% of infants with cCMV infections are asymptomatic at birth, and there is no accepted standard for screening for cCMV. To address this knowledge gap, Lopez et. al. (10.1542/peds.2017-1517) examined the cognitive outcomes and academic performance of a prospective cohort of infants with urine cultures positive for CMV at birth through the first 18 years of life. This cohort included 78 patients with cCMV infection and normal hearing, 11 patients with cCMV infection and SNHL by age 2 years, and 40 control patients. Using age-appropriate intelligence scales, the authors found no statistically significant difference in the intelligent quotients of children with cCMV infection and normal hearing and children without cCMV. Children with cCMV infection and SNHL by age 2 were found to have scores that were 7 points lower compared to the controls ($p<0.05$). Similarly, children with cCMV and SNHL had lower receptive vocabulary scores compared to children with normal hearing regardless of cCMV status. The authors also found no significant difference among the three groups in academic performance in math or reading.

While this study is one of the first to longitudinally follow asymptomatic infants with cCMV infants through 18 years of age, the question still remains: should we screen all infants for cCMV and what benefit would this provide? Drs. Boppana and Fowler, both with the Division of Infectious Diseases at University of Alabama at Birmingham, provide insight into this topic while summarizing the strengths and limitations of this study (10.1542/peds.2017-2526). The study's authors and commentary were quick to acknowledge that, while it is reassuring children with cCMV and normal hearing did not have lower intelligence quotients or academic achievement scores, more research is needed to determine the utility and value of newborn cCMV

screening. Check out both this study and the commentary to help guide your discussions with families and children with cCMV infections.

- Screening for Congenital Cytomegalovirus After Newborn Hearing Screening: What Comes Next?
- Hearing Loss in Children With Asymptomatic Congenital Cytomegalovirus Infection
- A Targeted Approach for Congenital Cytomegalovirus Screening Within Newborn Hearing Screening
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