

Which infants exposed to Zika virus infection in pregnancy should have eyes examined?

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Transmission electron microscope image of negative-stained, Fortaleza-strain Zika virus (red), isolated from a microcephaly case in Brazil. The virus is associated with cellular membranes in the center. Credit: NIAID

Eye abnormalities in infants from Brazil born to mothers with confirmed Zika virus infection in pregnancy are described in an article published by *JAMA Pediatrics*.

The descriptive case series by Andrea A. Zin, M.D., Ph.D., of the Instituto Nacional de Saúde da Mulher, da Criança e do Adolescente Fernandes Figueira-Fundação Oswaldo Cruz, Rio de Janeiro, Brazil, and coauthors included 112 [infants](#) born to mothers with confirmed Zika virus [infection](#). The study was performed at the Fernandes Figueira Institute, a referral center for high-risk pregnancies and infectious diseases in children in Rio de Janeiro. The infants were examined until age 1 by a medical team, including a pediatric ophthalmologist.

Of the 112 infants, 20 had microcephaly; 31 had other central nervous system abnormalities; and 61 had no central nervous system findings. Among the 112 mothers, 32 had Zika virus infection in the first trimester; 55 in the second trimester; and 25 in the third trimester.

According to the results:

- 24 of the 112 infants (21.4 percent) had sight-threatening eye abnormalities; optic nerve and retinal abnormalities were the most frequent findings.
- 10 infants (41.7 percent) with eye abnormalities did not have microcephaly and eight (33.3 percent) did not have any central nervous system findings.
- 14 infants with eye abnormalities (58.3 percent) were born to women infected with Zika virus in the first trimester; eight (33.3 percent) in the second trimester; and two (8.3 percent) in the third [trimester](#).

Study limitations include a referral bias for microcephaly and other characteristics of Zika virus infection, as well as the lack of a control

group for comparison. The authors acknowledge they "cannot affirm with absolute certainty" that all eye abnormalities were attributable to Zika virus infection.

"Eye abnormalities may be the only initial finding in congenital Zika virus infection. All infants with potential Zika [virus](#) exposure should undergo screening eye examinations regardless of CNS [central nervous system] abnormalities, timing of maternal infection during pregnancy or laboratory confirmation," the article concludes.

More information: *JAMA Pediatrics* (2017). [DOI: 10.1001/jamapediatrics.2017.1474](#)

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