

(Ophthalmic manifestation in zika V infection)

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Introduction

Zika virus (ZIKV) belongs to the *Flavivirus* genus, is an icosahedral, enveloped, single-stranded RNA virus. The lipid envelope is covered with dense projections that consist of a membrane and envelope glycoproteins, incubation period 3-12 days.¹

- **Caused a mild symptoms** fever, headache, myalgia, rash, and conjunctivitis.
- **Cause more severe clinical consequences**, including Guillain-Barré syndrome (GBS) in adults and microcephaly and congenital malformations in fetuses and newborn infants.
- Unlike most other flaviviruses, ZIKV has the potential for significant human-to-human transmission through sexual and vertical routes.²

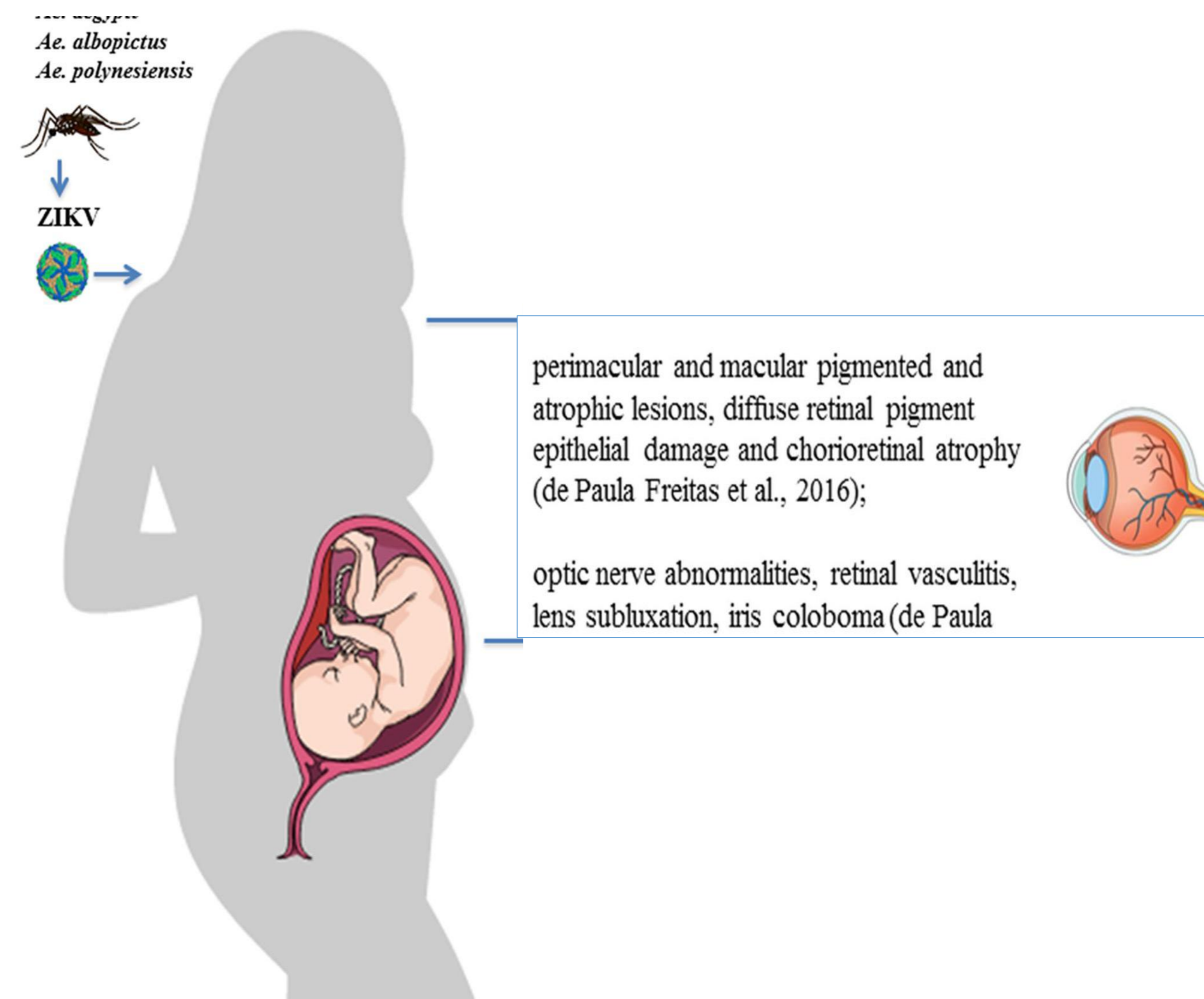
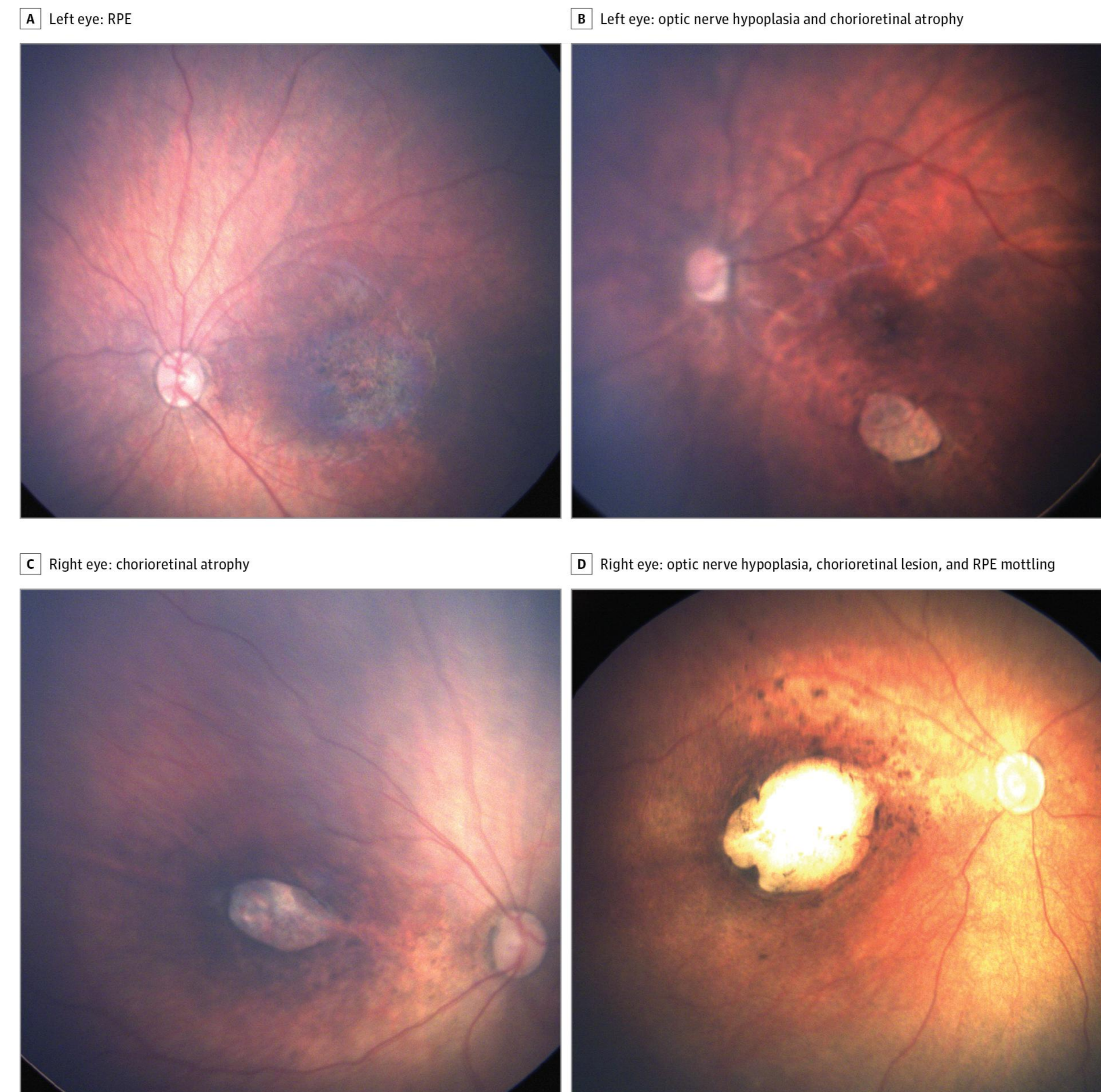
Material & Method

• Method is based on study assessed the ophthalmological findings of ten mothers and their infants that had been clinically diagnosed with ZIKV – related microcephaly and presented ocular abnormalities, born from May to December 2015 in Recife, Brazil

Result

Referred symptoms during pregnancy (malaise, rash and arthralgia), (85%) were in the first trimester. At the time of exam, no ophthalmological abnormalities were identified in the mothers and they did not report ocular symptoms during pregnancy.

In all infants Ocular findings included macular alterations (gross pigment mottling and/or chorioretinal atrophy) in fifteen eyes (75%), and optic nerve abnormalities (hypoplasia with double-ring sign, pallor, and/or increased cup-to-disk ratio) in nine eyes (45%)



Discussion

Eye malformations in newborns to mothers infected with ZIKV during pregnancy are not well understood.

It remains unclear whether the chorioretinal lesions are a direct effect of infection or secondary to an immune-mediated process cause more severe ocular abnormalities when the infection occurs in the first or second trimester of pregnancy.³

- **Histopathological analysis**: showed neuroinflammation characterized by extensive perivascular cuffing with neutrophils and mononuclear cells. Infected eyes showed infiltration of cells in the vitreous space and ganglion cell layer.
- **Immunohistochemistry**: revealed infiltration of macrophages (CD 11) and T- cells (CD 4) in the infected retina.⁴

Conclusion

- Eye abnormalities may be the only initial finding in congenital Zika virus infection.
- All infants with potential maternal Zika virus exposure at any time during pregnancy should undergo screening eye examinations regardless of the presence or absence of central nervous system abnormalities.

References

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