

Zika Virus- The Microcephaly Inducing Flavivirus

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Zika virus and its associated complication has been declared a Public Health emergency of International concern by the World Health Organization (WHO) and presently there is an ongoing epidemic in the Americas and Caribbean [1,2].

First detected in 1947 and named after the Ugandan forest where the rhesus monkey was localized before spreading to Southeast Asia and recently the Americas [3].

Zika virus is a member of the flavivirus family, which includes yellow fever virus, dengue and West Nile virus. It is Mosquito-borne and primarily transmitted to humans through the bites of infected Aedes mosquitoes and recently cases of sexual transmission has been described while blood, semen, urine, saliva, amniotic fluid, cerebrospinal fluid and breast milk has been noted to have the viral RNA [4,5,6].

Intrauterine infection and intrapartum infection can result from maternal- fetal transmission [7].

An incubation period of 2 to 14 days between mosquito bite and clinical manifestation has been described and symptoms and signs of infection such as maculopapular rash associated with an acute onset of low grade fever, arthralgia, myalgia, headache, retro-orbital pain and non-purulent conjunctivitis are seen in about 20% of infected individuals [8,9]. Nausea, diarrhea, pruritus, mucus membrane ulceration and abdominal pain are rare occurrence [10]. It is confirmed by the presence of IgM antibody against Zika virus and the reverse-transcription polymerase chain reaction (RT-PCR) detection of viral RNA or antigen but the good news is that case-fatality is low and hospitalization is uncommon [9]. There is an association with Guillain-Barre syndrome while congenital microcephaly, intracranial calcifications, ventriculomegaly and first trimester fetal loss has been seen in infected pregnant women though the transmission mechanism and fetal susceptibility risk are unknown [10,11].

Currently, there is no vaccine for preventing transmission so pregnant women with Zika virus exposure needs to be closely followed with serial ultrasound examinations. Those with negative laboratory tests at less than 20 weeks of gestation should have screening ultrasound examinations at about 20 and 28 weeks gestation, while ultrasound examinations at 2 and 6 weeks are done in those with negative tests after 20 weeks of gestation.

For those with positive tests prior to 20 weeks of gestation, serial ultrasound examination is recommended every 2 to 4 weeks commencing at 18 weeks gestational age while a positive test after 20 weeks gestation, necessitates an immediate commencement of serial ultrasound exam [12].

Diagnostic amniocentesis with RT-PCR testing for Zika virus can be offered and performed with ultrasound findings of fetal microcephaly, ventriculomegaly and intracranial calcification or with a positive/inconclusive test after 6 weeks of maternal exposure.

Attention should be placed on preventing transmission, exposed males should avoid unprotected sex with their pregnant partners, environmental control to eliminate mosquito breeding sites should be implemented and measures to avoid mosquito bites should be adopted by individuals living in endemic region, this is especially so in pregnant women.

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The center for disease control presently recommends for pregnant women to consider postponing travel to affected geographic areas and this needs to be taken seriously for the time being while efforts at developing a vaccine should be encouraged [13].

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