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All PDHS, RDHS,

All Directors/Medical Superintendents of Teaching, General and Base hospitals,

All Regional Epidemiologists,

All Medical Officers of Health,

Revised Guidelines for Clinical Management, Laboratory Investigation and Surveillance of Patients with Zika Virus Infection

Zika virus disease is an emerging mosquito-borne viral disease that was first identified in Uganda in 1947. Since then outbreaks of Zika virus disease had been reported in Africa, South and Central America and in few countries of Asia and Pacific region. Zika virus is a member of family Flaviviridae which is transmitted by mosquitoes of genus Aedes. It causes a mild illness known as Zika fever, Zika or Zika disease. Current outbreaks indicate the possibility of rapid global expansion of Zika virus disease.

Currently Affected Countries

Zika virus continues to spread geographically to areas where competent vectors are present. Up to now 72 countries and territories have reported mosquito-borne Zika virus transmission from 2015. Eleven countries have reported limited number of cases of person-to-person (probably sexually) transmission.

- Some countries of South America (Argentina, Brazil, Colombia, Paraguay, Venezuela,
 Suriname, French Guiana, Ecuador, Guyana, Bolivia, Peru);
- Central America (El Salvador, Guatemala ,Mexico, Panama, Honduras, Belize, Costa Rica, Nicaragua);

- Caribbean (Anguilla, Antigua and Barbuda, Aruba, The ahamas, Barbados, Bonaire, British VirginIslands, Cayman Islands, Cuba, Curaçao, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, the Commonwealth of Puerto Rico, a US territory, Saint Barthelemy, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Sint Eustatius, Sint Maarten, Trinidad and Tobago, Turks and Caicos Islands, US Virgin Islands)
- Western Pacific Region (Philippines, Malaysia, Singapore, Fiji; Marshall Islands, Micronesia (Federated States of), Samoa, Singapore, Tonga, Viet Nam, Cambodia, Cook Islands, French Polynesia, Lao People's Democratic Republic, New Caledonia, Papua New Guinea, Solomon Islands and Vanuatu); South East Asian region (Indonesia, Thailand, Bangladesh; Maldives); African Region (Cabo Verde, Guinea-Bissau Gabon) had reported local transmission of Zika virus in year 2015 and 2016.

Transmission

Zika virus is transmitted to humans primarily by mosquitoes of Genus <u>Aedes</u> (*Aedes aegypti, Aedes albopictus* etc.). These are the same mosquitoes that spread dengue, chikungunya and yellow fever. <u>Aedes</u> mosquitoes are daytime biters who prefer to bite humans (Anthropophillic) and live both indoors and outdoors near people. Sexual transmission of Zika virus is also possible. Other modes of transmission such as blood transfusion are being investigated.

Incubation Period

Incubation period of Zika virus is not clear, but is likely to be few days to a week. Zika virus usually remains in blood of an infected person for few days but it can be found longer in some people.

Symptoms

Only about 20% of people infected with Zika virus will develop the clinical disease. The symptoms are similar to other arbovirus infections such as dengue, and include fever, skin rashes, conjunctivitis, muscle and joint pain, malaise, and headache. These symptoms are usually mild and last for 2-7 days. Severe illness requiring hospitalization is uncommon.

Complications

Pregnant women can be infected with Zika virus in any trimester. There is no evidence existing to suggest that the pregnant women are more susceptible to Zika virus infection or experience

Guillain-Barre Syndrome during outbreaks. After a comprehensive review of evidence, there is scientific consensus that Zika virus is a cause of microcephaly and Guillain-Barré syndrome. Intense efforts are continuing to investigate the link between Zika virus and a range of neurological disorders, within a rigorous research framework.

Laboratory Diagnosis and Confirmation

Zika virus can be diagnosed by RT- PCR test (Real Time- Polymerase Chain Reaction) and virus isolation from blood samples. There is no widely available test to detect Zika infection. Because it is closely related to dengue and yellow fever, it may cross-react with antibody tests for those viruses. Ministry of Health has established diagnostic facilities (PCR test) for Zika virus at MRI.

Indication of laboratory diagnosis for ZIKA

- 1. Any patient who has clinical features suggestive of Zika infection with travel history to Zika affected country (Country with active Zika transmission) within previous 2 weeks;
- 2. Any pregnant mother with travel history to a Zika affected country (Country with active Zika transmission) during pregnancy within first 5 days of arrival (even in the absence of clinical features suggestive of Zika infection)

Following should be considered when sending sample to MRI.

- 1. Request: Very brief history is mandatory highlighting the following;
 - Clinical features of the patient.
 - Travel history within the previous 2 weeks
 - Date and the <u>Day of the illness when blood was collected</u>
 - Any other investigations done to detect other viral infections such as dengue or chickungunya
- 2. Sample collection, storage and transport,
 - Sample should be collected within the first five days of illness (early sample).
 - Blood should be collected into EDTA tube or plain red top tube.
 - Minimum blood volume is 2ml.
 - Heparinized or very low volume samples (less than 2 ml) may not be accepted for testing.
 - Specimen should be transported to the laboratory at 2 to 8°C as soon as possible.

- In the event of delay, may be stored in the refrigerator at 2 to 8°C up to 2 days.
- Late samples (after day 7 of illness) may not be accepted for the zika virus PCR test.
- Fill all the other fields in the request form very clearly and container should be properly labeled.
- Please contact Virology department of MRI to clarify any matter in sample collection,
 storage and transportation.

Treatment

Zika virus disease is usually mild and does not require any specific treatment. There is no vaccine or anti viral medication currently available to treat the Zika virus disease.

Treatment is generally supportive and based on symptomatic management;

- Get adequate rest
- Drink adequate fluid to prevent dehydration
- Take Paracetamol to relive fever and pain
- Taking aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) are not recommended.

Patients with mild illness can be managed at OPD or at home according to the decision of the physician who is attending for care of the patient and should be provided supportive symptomatic treatment and advice. Patients with severe illness should be admitted for inward care only after considering the severity of the clinical situation of the individual patient.

Necessary investigations should be done to rule out the possibility of Dengue because both conditions shares some similar clinical manifestations.

Prevention

- Zika virus can be found in blood during the first week of infection. Prevention and control of
 disease relies on reducing mosquitoes through source reduction and avoiding contact
 between mosquitoes and people. All measures should be taken to keep the environment
 clean to avoid breeding of Aedes mosquitoes.
- All travellers to affected areas, showing symptoms compatible with Zika virus disease within 2 weeks of return from an affected area should consult their medical practitioner for evaluation of the condition. Medical practitioners should inquire the travel history of the suspected cases of Zika viral disease.

- 3. Any pregnant mothers with travel history to a Zika affected country during pregnancy should consult their medical practitioner soon after arrival for evaluation of the condition. They will be referred for laboratory diagnosis for ZIKA within first 5 days of arrival (even in the absence of clinical features suggestive of Zika infection)
- 4. People should take personal protective measures to avoid mosquito bites such as usage of mosquito repellants; wearing clothes that cover as much of the body; using physical barriers such as screens, closed doors and windows and sleeping under mosquito nets.
- 5. Pregnant women or women planning to get pregnant who are planning to travel to the affected areas should consider postponing their visit, considering risk and benefit.
- 6. All suspected Patients with Zika infection should be advised to use bed nets in order to prevent the spread of disease among inward patients/community. Hospital premises where the suspected or diagnosed Zika patients being treated should be kept clean and fogged in regular basis (at least once in a week).

Surveillance

The surveillance case definition of suspected Zika virus disease is "A patient with a history of travel to an area with ongoing transmission of Zika disease within the previous two weeks and having two or more of the following symptoms; acute onset of fever, rash, myalgia, arthralgia and conjunctivitis.

All suspected Zika virus disease patients should be notified to the respective Medical Officer of Health (MOH).

Role of the Medical officer of Health in prevention of spread of Zika infection

- 1. All notified cases should be investigated immediately (within 24/h) and necessary preventive and control measures should be deployed.
 - Ensure immediate surrounding environment of the index case is free of possible
 Aedes mosquito breeding places.
 - Carry out both indoor and outdoor fogging in the surrounding environment of the index case immediately and followed by 2nd round of fogging after 1 week.

- Ensure that the suspected patient with Zika infection uses bed nets.
- Regularly follow up the prognosis of the index patient and give a feedback to the
 Regional Epidemiologist and the Epidemiology Unit.
- Educate the public about the clinical features of Zika infection and advice to seek medical care immediatly.
- Closely monitor the surrounding environment for additional cases of Ziks infection
- 2. All travellers to Zika affected areas, showing symptoms compatible with Zika virus disease within 2 weeks of return from an affected area should be referred to medical practitioner for evaluation of the condition immediately.
- 3. Any pregnant mother with travel history to a Zika affected country during pregnancy should be referred to a medical practitioner soon after arrival for evaluation of the condition.
- 4. All Regional Epidemiologists and all Medical Officers of Health should give special attention to the current situation in their areas and should educate all public health staff and be prepared to take preventive action when necessary.

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