DIFFERENTIAL DIAGNOSIS

- overally Any febrile illness
- Epidemiologic and environmental exposures
- Serology and RT-PCR

Chikungunya

- similar symptoms and signs
- transmitted by the same mosquito vector
- joint pain was>> more often by patients with chikungunya
- abdominal pain and leukopenia were more common in those with dengue
- Joint swelling is highly specific for chikungunya
- bleeding manifestations and thrombocytopenia are relatively specific for dengue.
- DX: serology /RT-PCR

Zika virus infection

- similar clinical manifestations and are transmitted by the same mosquito vector
- Zika is commonly associated with conjunctivitis
- Coinfection with Zika, chikungunya, and DENVs
- serology or RT-PCR

Clinical features: Zika virus infection compared with dengue and chikungunya

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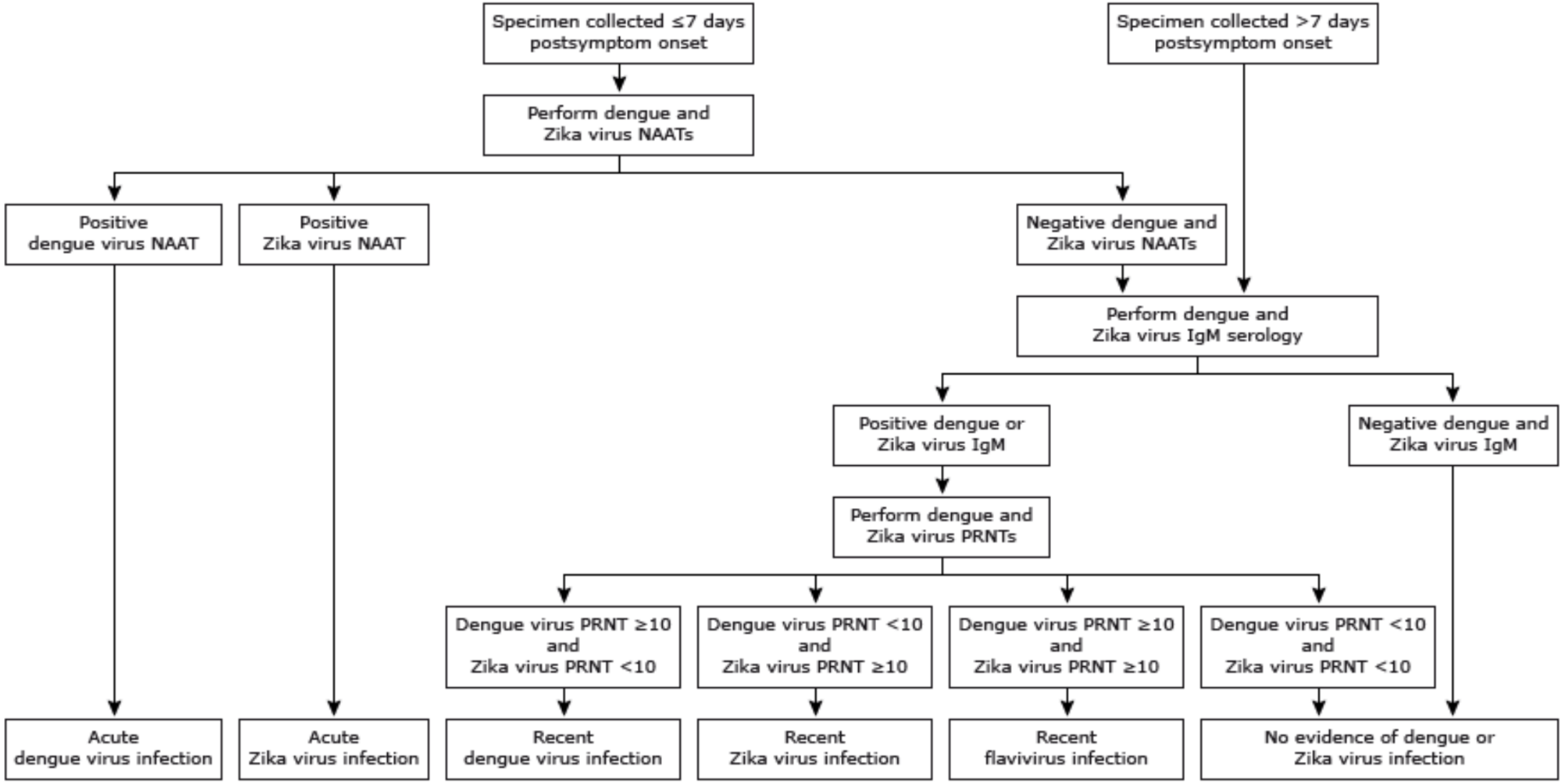
Features	Dengue	Chikungunya	Zika
Fever	+++	+++	++
Rash	+	++	+++
Conjunctivitis	-	+	++
Arthralgia	+	+++	++
Inflammatory arthritis (characterized by prolonged morning stiffness)	--	+++	--
Myalgia	++	+	+
Headache	++	++	+
Hemorrhage	++	-	-
Shock	+	-	-

Approach to diagnostic testing for dengue and Zika virus infection in symptomatic nonpregnant individuals with risk for infection with both viruses



Specimen and test selection: Dengue and Zika virus NAATs, IgM antibody testing, and PRNTs should be performed on serum. Some NAATs also can be performed on plasma, whole blood, cerebrospinal fluid, or urine, and some antibody tests can be performed on plasma, whole blood, or cerebrospinal fluid. Laboratories might choose to perform dengue and Zika virus NAATs and IgM antibody testing simultaneously rather than sequentially, or to perform dengue virus nonstructural protein-1 testing instead of dengue virus NAAT.

Indications to repeat assay(s): If the patient's illness has epidemiologic or clinical significance (eg, first case of local transmission in area, new transmission mode, or unusual clinical syndrome), repeat a positive NAAT on newly extracted RNA from the same specimen. For indeterminate IgM antibody test results, repeat IgM antibody testing or perform PRNT on the same specimen. In areas where PRNTs are not performed, report the indeterminate results and request a second serum specimen for IgM antibody testing.

Interpretation of results: Dengue and Zika virus IgM antibodies can be detected in serum for months following infection. The specific timing of infection cannot be determined. Data on the epidemiology of viruses known to be circulating at the location of exposure and clinical findings should be considered when interpreting the results of serologic diagnostic testing.

NAAT: nucleic acid amplification test; IgM: immunoglobulin M; PRNT: plaque reduction neutralization test.

Influenza

- abrupt onset of fever, headache, myalgia, and malaise, accompanied by manifestations of respiratory-tract illness, such as cough, sore throat, and rhinitis

- molecular testing of a nasopharyngeal specimen

Coronavirus disease 2019 (COVID-19)

- fever, cough, and/or dyspnea; other features, including upper respiratory tract symptoms, myalgias, diarrhea, and loss of senses of smell or taste
- lymphopenia and elevated liver enzymes
- molecular testing of a nasopharyngeal specimen

Typhoid fever

- fever, bradycardia, abdominal pain, and rash

- stool and/or blood culture

Parvovirus B19

- a mild febrile illness characterized by an erythematous malar rash followed by a lacy rash over the trunk and extremities
- In adults, parvovirus may present as an acute arthritis involving the small joints of the hands, wrists, knees, and feet, with or without a rash
- serology or nucleic acid testing

Acute HIV infection

- fever, lymphadenopathy, sore throat, rash, myalgia/arthralgia, and headache
- painful mucocutaneous ulceration and aseptic meningitis
- an HIV immunoassay (ideally, a combination antigen/antibody immunoassay) and an HIV virologic (viral load) test

Viral hepatitis

- hepatitis A, B, C, D, and E
- Hepatitis A and E>>>acute infections>>>the fecal-oral route
- hepatitis B, C, and D can present acutely or chronically and are transmitted by body fluids
- serology and PCR

Other viral hemorrhagic fevers

- Ebola virus
- Marburg virus>>west Africa>>> bats>> through direct contact with the blood or other body fluids of a patient or during preparation of a body for burial/semen/ no data to suggest that Marburg virus is transmitted among humans by mosquitoes or other biting arthropods.
- Lassa virus
- yellow fever virus
- Crimean-Congo hemorrhagic fever
- hantavirus (hemorrhagic fever with renal syndrome)
- severe fever with thrombocytopenia syndrome virus (SFTSV)
- distinguished based on relevant epidemiologic exposure and polymerase chain reaction or serologic testing

Malaria

- characterized by fever, malaise, nausea, vomiting, abdominal pain, diarrhea, myalgia, and anemia

- rapid antigen test or by visualization of parasites on peripheral smear

Leptospirosis

- fever, rigors, myalgia, conjunctival suffusion, and headache
- Less common symptoms and signs include cough, nausea, vomiting, diarrhea, abdominal pain, and arthralgia
- serology

Rickettsial infection

- African tick bite fever
- relapsing fever(borelliosis)

- African tick bite fever >> headache, fever, myalgia, solitary or multiple eschars with regional lymphadenopathy, and generalized rash>>> serology

- Relapsing fever is characterized by fever, headache, neck stiffness, arthralgia, myalgia, and nausea

- direct smear and polymerase chain reaction

Sepsis due to bacteremia

- fever, tachycardia, and altered mental status

- blood culture.