Be Aware of Chikungunya Fever

*Islam MM

The name chikungunya derives from a root verb in the Kimakonde language meaning "to become contorted" and it describes the stooped appearance of sufferers with arthralgia.[1]

Chikungunya virus is primarily transmitted to humans through the bites of infected mosquitoes, predominantly *Aedes aegypti* and *Aedes albopictus*. Humans are the primary host of chikungunya virus during epidemic periods. Chikungunya virus was first isolated in 1952 in Tanzania.[1] Institute of Epidemiology, Disease Control & Research, Bangladesh identified 566 cases in current outbreak in Dhaka city so far. Chikungunya fever is typically a rapid-onset febrile disease, characterized by intense asthenia, arthralgia, myalgia, headache, and rash. The abrupt onset of fever follows a mean incubation period of 3 days; when fever is present, the body temperature is usually higher than 39°C. Soon after the onset of fever, severe myalgia and arthralgia occur; these are frequently so intense that patients have difficulty leaving the position they were in when their symptoms began. The joint pain is usually symmetric and localized in both the arms and legs (in 90% of patients); the large joints are almost invariably symptomatic, as are, to a lesser extent, the small joints and the vertebral column. Periarticular edema and acute arthritis may also occur, in particular in the interphalangeal joints, wrists, and ankles, as well as pain along ligament insertions. Rash occurs in 20 to 80% of chikungunya fever cases, but it is also seen in other arboviral diseases, such as dengue fever. It is typically maculopapular and focused on the trunk, but it may also reach the face and involve the arms and legs, the soles, and the palms; it can be bullous in children. External ear redness is also observed, which may reflect chondritis and is evocative of chikungunya virus infection. Less common, nonspecific signs and symptoms include lymphadenopathy, pruritus, and digestive abnormalities, which are more common after viremia has resolved. Feelings of faintness, fainting, confusion, and attention-deficit disorders are observed in the acute phase but may reflect the intensity of fever rather than chikungunya virus–specific pathogenesis. Rare complications can occur during the acute phase, including conjunctivitis, uveitis, iridocyclitis, and retinitis, which typically resolve. Patients with severe chikungunya fever requiring hospitalization tend to be older and to have coexisting conditions such as cardiovascular, neurologic, and respiratory disorders or diabetes, which are independent risk factors for severe disease. Severe chikungunya fever can manifest as encephalopathy and encephalitis, myocarditis, hepatitis, and multiorgan failure. These rare forms can be fatal and typically arise in patients with underlying medical conditions. Hemorrhagic complications are rare and should lead to the consideration of alternative diagnoses, such as a coinfection with dengue virus or coexisting conditions such as chronic hepatopathy. Neonates are another group at risk for severe infection associated with neurologic signs. Whereas fetal infection appears to be extremely rare, the rate of infection of neonates born to viremic mothers and exposed to the virus during birth can reach 50%, leading to severe disease and encephalopathy. Young children also tend to have severe disease.[2]

**Dr. Md. Mahabubul Islam, Assistant Professor, Department of Community Medicine, Editor, Dinajpur Medical College Journal. mmisujan@gmail.com*

There is no licensed drug to limit chikungunya virus replication and improve clinical outcome, and only standard antipyretic and antalgic therapies are available for symptomatic treatment.

The major disease and economic burdens of chikungunya fever result not only from the high attack rate and severity of acute infection but also from chronic joint pain. This can be persistent or relapsing arthralgia that is located mostly in the distal joints, which may be associated with arthritis and may mimic rheumatoid arthritis (chronic inflammatory, erosive, and rarely deforming polyarthritis) in up to 50% of patients. Chronic arthralgia can lead to persistent incapacitation requiring long-term treatment with nonsteroidal antiinflammatory and immunosuppressive drugs such as methotrexate, although their safety and efficacy also have yet to be demonstrated in clinical trials. The diagnosis of chikungunya fever is typically clinical, because the association of acute fever and arthralgia is highly predictive in areas where the disease is endemic and where epidemics have occurred. A definitive diagnosis relies on virus detection through reverse-transcriptase–polymerase-chain reaction (RT-PCR) testing during the viremic phase (the first week).[2] No licensed vaccine or antiviral drug is available against chikungunya virus. Current treatment mainly involves the use of anti-inflammatory drugs for symptomatic relief.[3] The way to control chikungunya fever is building public awareness including education of the public regarding the reduction of sources of standing water that serve as larval habitats for Aedes aegypti. For individual protection during outbreaks of chikungunya, clothing that minimizes skin exposure to the day-biting vectors is advised. Repellents may be applied to exposed skin or to clothing. So, there is no way to prevent and control of chikungunya fever without mass public awareness and motivation for protective measures.

References

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