Chikungunya
Atypical and severe disease manifestations

Atypical and severe manifestations

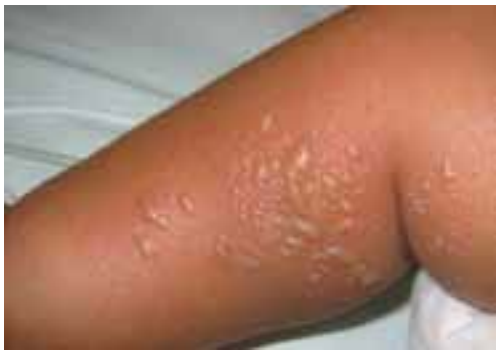
- Although most chikungunya virus infections result in fever and arthralgia, other clinical manifestations can occur.
- Atypical or severe clinical manifestations can be due to the direct effects of the virus, immunologic response to the virus, drug toxicity, or diseases unrelated to chikungunya virus infection.
- Some atypical or severe manifestations are more common in certain groups. For example, vesiculobullous lesions, febrile seizures, and meningoencephalitis have been reported in infants and young children.
- Since many atypical and severe clinical manifestations will be unrelated to chikungunya virus infection, healthcare providers should consider and evaluate for other etiologies.

Reported atypical or severe disease manifestations of chikungunya virus infection*

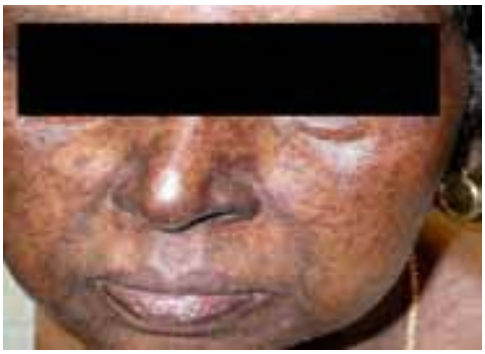
System	Clinical manifestations
Neurological	Meningoencephalitis, encephalopathy, seizures, Guillain-Barré syndrome, cerebellar syndrome, paresis, palsies, neuropathy
Ocular	Optic neuritis, iridocyclitis, episcleritis, retinitis, uveitis
Cardiovascular	Myocarditis, pericarditis, heart failure, arrhythmias, hemodynamic instability
Dermatological	Photosensitive hyperpigmentation, intertriginous aphthous-like ulcers, vesiculobullous dermatosis
Renal	Nephritis, acute renal failure
Other	Bleeding dyscrasias, pneumonia, respiratory failure, hepatitis, pancreatitis, syndrome of inappropriate secretion of antidiuretic hormone (SIADH), hypoadrenalism

*Adapted from Rajapakse et al.

Atypical or severe dermatologic manifestations of chikungunya virus infections



Bullous lesion on infant's leg



Hyperpigmentation

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Risk groups for severe disease

- Persons at risk for severe disease (e.g., hospitalization) include neonates exposed intrapartum, older adults, and persons with underlying medical conditions (e.g., hypertension, diabetes, cardiovascular disease).
- Mortality is rare and occurs mostly in older adults.

Pregnant women and newborns

- Pregnant women infected with chikungunya virus are not at increased risk of atypical or severe disease.
- Most pregnant women infected with chikungunya virus do not transmit the virus to the fetus.
- The highest risk occurs when pregnant women are symptomatic during the intrapartum period (i.e., 2 days before to 2 days after delivery). During the intrapartum period, half of all infected pregnant women will transmit chikungunya virus to their fetus.
- Infants infected intrapartum are often asymptomatic at birth but most develop clinical illness within 7 days after delivery.
- Common symptoms among neonates include fever, pain, rash, and peripheral edema. Some infants develop neurologic disease (e.g., meningoencephalitis, cerebral edema, intracranial hemorrhage), hemorrhagic symptoms, or myocardial disease.
- Laboratory abnormalities include elevated liver function tests, reduced platelet and lymphocyte counts, and increased prothrombin time.
- Neonates who suffer from neurologic disease often develop long-term disabilities.
- There is no evidence that chikungunya virus is transmitted through breast milk.

Treatment and clinical management

- Since no specific antiviral therapy is available, treatment is symptomatic
- Assess hydration and hemodynamic status
- Provide supportive care as needed and manage complications
- Evaluate for other serious conditions (e.g., dengue, malaria, bacterial infection) and treat or manage appropriately
- Use acetaminophen or paracetamol for fever and pain control
    - If inadequate, consider using narcotics or NSAIDs
    - If the patient is suspected of having dengue, do not use aspirin or other NSAIDs (e.g., ibuprofen, naproxen, toradol) until the patient has been afebrile ≥48 hours and does not have warning signs for severe dengue*

Selected references

- CDC and Pan American Health Organization. Preparedness and response for chikungunya virus introduction in the Americas. Washington, DC: Pan American Health Organization, World Health Organization; 2011.
- Economopoulou A, et al. Atypical Chikungunya virus infections: clinical manifestations, mortality and risk factors for severe disease during the 2005-2006 outbreak on Reunion. Epidemiol Infect 2009;137:534–41.
- Gerardin P, et al. Multidisciplinary prospective study of mother-to-child chikungunya virus infection on the Island of La Reunion. PLoS Med 2008;5(3):e60.
- Rajapaksa S, et al. Atypical manifestations of chikungunya infection. Trans Royal Soc Trop Med Hyg 2010;104:89-96.
- Tandale BV, et al. Systemic involvements and fatalities during chikungunya epidemic in India, 2006. J Clin Virol 2009;46:145–149.

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*Warning signs for severe dengue include severe abdominal pain, persistent vomiting, mucosal bleeding, clinical fluid accumulation, lethargy, enlarged liver, and increased hematocrit with decreased platelet count.

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