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Systemic involvements and fatalities during Chikungunya epidemic in India, 2006

Babasaheb V. Tandale ^a ... Akhilesh C. Mishra ^a  

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Abstract

Background

In addition to classical manifestations of Chikungunya infection, severe infections requiring hospitalization were reported during outbreaks in India in 2006.

Objectives

To describe the systemic syndromes and risk groups of severe Chikungunya infections.

Study design

We prospectively investigated suspected Chikungunya cases hospitalized in Ahmedabad, Gujarat during September–October 2006, and retrospectively investigated laboratory-confirmed Chikungunya cases hospitalized with neurologic syndromes in Pune, Maharashtra. Hospital records were reviewed for demographic, comorbidity, clinical and

laboratory information. Sera and/or cerebrospinal fluid were screened by one or more methods, including virus-specific IgM antibodies, viral RNA and virus isolation.

Results

Among 90 laboratory-confirmed Chikungunya cases hospitalized in Ahmedabad, classical Chikungunya was noted in 25 cases and severe Chikungunya was noted in 65 cases, including non-neurologic (25) and neurologic (40) manifestations. Non-neurologic systemic syndromes in the 65 severe Chikungunya cases included renal (45), hepatic (23), respiratory (21), cardiac (10), and hematologic manifestations (8). Males (50) and those aged ≥ 60 years (50) were commonly affected with severe Chikungunya, and age ≥ 60 years represented a significant risk. Comorbidities were seen in 21 cases with multiple comorbidities in 7 cases. Among 18 deaths, 14 were males, 15 were aged ≥ 60 years and 5 had comorbidities. In Pune, 59 laboratory-confirmed Chikungunya cases with neurologic syndromes were investigated. Neurologic syndromes in 99 cases from Ahmedabad and Pune included encephalitis (57), encephalopathy (42), and myelopathy (14) or myeloneuropathy (12).

Conclusions

Chikungunya infection can cause systemic complications and probably deaths, especially in elderly adults.



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Abbreviations

CHIK, Chikungunya virus disease; CHIKV, Chikungunya virus; CI, confidence interval; CSF, cerebrospinal fluid; *df*, degree of freedom; DENV, Dengue virus; ELISA, enzyme linked immunosorbent assay; IgM, immunoglobulin M; OR, Odds ratio; PCR, polymerase chain reaction; RNA, ribonucleic acid

Keywords

Chikungunya virus; Encephalitis; Death; Elderly; Comorbidity

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