

A Suspected Chikungunya Virus in Rural Sindh: Case of a Viral Fever in a Young Female from Karachi, Pakistan

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ABSTRACT

The case report describes a 20-year-old female patient who came to the tertiary care hospital's emergency department in Karachi with symptoms expressive of viral fever, including fever, generalized body ache, and weakness. Initially, the patient was diagnosed with viral fever, and supportive care was given. After knowing the patient's demographic location and presenting symptoms, chikungunya fever was considered as a potential diagnosis. A mosquito-borne viral illness is extremely widespread, with common viral fevers as clinical features, considered as Chikungunya fever in rural areas of Sindh. In this report, the clinical features and treatment approaches, and the broader context of chikungunya's impact on populations living in rural Sindh have been discussed.

Keywords: *Living conditions, rural Sindh, Chikungunya fever, viral fever, mosquito-borne illnesses, Karachi.*

BACKGROUND

Chikungunya fever is considered a mosquito-borne viral illness transmitted by *Aedes* mosquitoes same as dengue [1]. In rural and urban areas across Sindh, Pakistan. In tropical and subtropical regions, it affects individuals. Body aches, abrupt onset of fever, and severe joint pain are its symptoms [2]. Due to insufficient mosquito control measures, overcrowding, and inadequate water management, especially in rural Sindh areas with poor living conditions and healthcare infrastructure, the risk of chikungunya is aggravated [3]. In this, a young female from an urban setting, Karachi, with symptoms of chikungunya fever has been presented, along with the connection between the spread of the disease and rural Sindh's living conditions has been analysed.

CASE PRESENTATION

A 20-year-old female with complaints of fever, generalized body aches, and weakness that had persisted for several days in Orangi Town, Karachi, was brought to the Emergency Department of a local hospital on September 30, 2024. She and her family had close relationships with Sindh, and it was the region where chikungunya fever had been reported because her travel history to rural areas had not been recorded [4].

Neurologically, she was conscious, alert, and oriented, scoring 15/15 on the Glasgow Coma Scale (GCS). Her vital signs were within normal limits, with a pulse of 88 beats per minute, blood pressure of 130/70 mmHg, respiratory rate of 22 breaths per minute, a body temperature of 37°C, and a blood sugar level of 98 mg/dL. A physical examination revealed a hyperemic

throat, suggestive of a viral infection at the time of admission. Cardiovascular and respiratory examinations were unremarkable, with normal heart sounds (S1 and S2) and bilateral normal vesicular breath sounds. Her abdomen was soft and non-tender, with audible bowel sounds, and there was no evidence of pedal edema.

Laboratory investigations, including a complete blood count (CBC), showed a slightly low hemoglobin level of 9.8 g/dL and a borderline low total white blood cell (WBC) count of $4.3 \times 10^9/L$. 68% neutrophils and 15% lymphocytes were revealed in the differential count. Her red blood cell morphology was normocytic and normochromic, and her platelet count was within the normal range at $175 \times 10^9/L$. As per these findings, a viral infection was suggested, and on her clinical presentation, chikungunya fever was considered a potential diagnosis, and in Sindh, the disease the prevalence was known [5].

Provisional Diagnosis

Viral fever had initially been diagnosed. Nevertheless, suspicion of chikungunya fever was raised due to the clinical features—fever, body ache, generalized weakness, and demographic background of the patient, because, in surrounding regions of Sindh, the disease had been prevalent [6].

Management and Treatment

Intravenous Ringer Lactate for hydration, paracetamol for fever and body aches, and metoclopramide for nausea had been given to the patient as supportive care. To cover possible bacterial co-infection, Antibiotics (Campex) had also been given. Oral medications, including Ruling capsules, Panadol, folic acid, and Neurobion, had been prescribed to her. A plan for outpatient follow-up if her condition worsens, staying hydrated with Oral Rehydration Salts (ORS), and monitoring her symptoms was advised to her [7].

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DISCUSSION

In 2016, the first case of Chikungunya fever was identified in Pakistan. In both rural and urban areas, it is a growing public health concern. Factors such as stagnant water, poor sanitation, and lack of awareness about vector control create an ideal environment for the breeding of *Aedes* mosquitoes, and substandard living conditions contribute highly to the disease's transmission in Rural Sindh [8]. Inappropriately stocked water by households and the community cannot access clean water may contribute to the spread of mosquitoes in these zones.

As the patient is from Karachi, the traveling of people between rural and urban areas has been contributing to the urban spread of Chikungunya [9]. Due to the compact population and inadequate urban planning and vector control efforts in Karachi, mosquito-borne illnesses, including chikungunya, have amplified.

In rural Sindh, open drainage systems and stagnant water pools along with the houses are frequently unwell-ventilated and overcrowded, with limited access to mosquito nets or insect repellents, playing the role of the breeding grounds for mosquitoes. Most of the cases of chikungunya remain undiagnosed due to it being misdiagnosed as other viral illnesses, which leads to the increasing number of cases [10]. Outbreaks lead to significant illness and are difficult to deal with.

Toughen the healthcare infrastructure, educating communities on the significance of proper water storage and sanitation, enhancing mosquito control programs, and improving access to preventive measures like mosquito nets and repellents to efficiently challenge chikungunya have been crucial to improve the overall well-being of the affected communities and decrease the spread of the disease is the purpose of these initiatives.

CONCLUSION

The report highlights critical recommendations for improving the diagnosis and management of chikungunya in rural areas. One of the key suggestions is to increase awareness and education among healthcare providers and the population for better diagnosis and preventive measures to control mosquito populations.

Improvement in early recognition and response to the Chikungunya outbreak can be achieved through training programs, community engagement, and targeted health campaigns.

CONSENT OF PUBLICATION

Consent has been taken from the patient.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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