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Case Report ***Open Access***

Chikungunya Fever with Arthralgia, Neurological Symptoms and Pneumonia: A Case Report

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Abstract

Presenting a case of Chikungunya viral fever, a 75-year-old male complained of fever, polyarthralgia, and no rash. Diagnostic test for CBC shows decreased platelet count and total count of WBC. The antibodies for the chikungunya test showed a positive result for the IgM antibody. Diagnosis was confirmed by RT-PCR. After treatment patient recovered from the fever. But the patient complained of severe joint and muscle pain even after one month. The patient, after a few days, developed neurological symptoms and pneumonia. HRCT and MRI of the brain confirmed the diagnosis. Antibiotic along with steroids, were started immediately after diagnosis. Patient responded very well with subsidence of fever and feeling of well-being.

Keywords: Chikungunya; Arthralgia; neurological symptoms; pneumonia

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Introduction

In different studies researcher found verity of history of an endemic area in Chikungunya fever. The patients complained of fever, polyarthralgia, neutropenia and thrombocytopenia. Chikungunya virus is an RNA virus, transmitted by the bite of mosquito aedes agepteae and albopictus,[1,2] Chikungunya virus was first isolated in Tanzania. After that it was spread to Thailand[3]. In 2004 there was an outbreak in Kenya. In 2005 transmission spread to Mozambique and Southeast Asia[4]. Chikungunya infection is presented with the symptom of high fever, polyarthralgia, maculopapular rash in the trunk and extremities with other symptom of headache, myalgia and vomiting[5].

Different studies have documented a wide variety of epidemiological histories and clinical manifestations among patients suffering from Chikungunya fever, particularly in relation to exposure in endemic areas. A consistent finding across these studies is a history of residence in or travel to endemic regions, where outbreaks of Chikungunya are closely linked to the presence of competent mosquito vectors. Patients commonly present with acute onset of high-grade fever accompanied by severe polyarthralgia, which is often symmetrical and involves both small and large joints, significantly impairing daily activities. Hematological abnormalities such as neutropenia and thrombocytopenia have also been frequently reported, reflecting bone marrow suppression and immune-mediated mechanisms associated with the viral infection.

Chikungunya virus is an enveloped, single-stranded RNA virus belonging to the genus Alphavirus of the family Togaviridae. The virus is transmitted primarily through the bite of infected *Aedes* mosquitoes, notably *Aedes aegypti* and *Aedes albopictus*, which are also

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responsible for the transmission of other arboviral diseases such as dengue and Zika. The adaptation of the virus to *Aedes* albopictus has been a key factor in its rapid geographic expansion, allowing transmission in both tropical and subtropical regions.

Historically, Chikungunya virus was first isolated in Tanzania in the early 1950s, marking its recognition as a distinct viral pathogen. Subsequently, the virus spread to several parts of Asia, with Thailand reporting cases in the following decades. A major resurgence occurred in 2004 with a significant outbreak in Kenya, which acted as a catalyst for further dissemination. By 2005, transmission had extended to Mozambique and multiple countries in Southeast Asia, leading to widespread epidemics and establishing the virus as a major public health concern in these regions.

Clinically, Chikungunya infection is characterized by abrupt onset of high fever, often exceeding 39°C, followed by debilitating polyarthralgia. A maculopapular rash involving the trunk and extremities is a common feature and typically appears within the first week of illness. Additional symptoms such as headache, myalgia, nausea, vomiting, and fatigue are frequently reported. While most patients recover from the acute febrile phase, joint pain may persist for months or even years in a subset of individuals, particularly older adults and those with comorbidities. These clinical and epidemiological features underscore the importance of considering Chikungunya fever in patients presenting with acute febrile illness and polyarthralgia in endemic and outbreak-prone areas.

Case Presentation

A 75 years male patient was admitted into a cabin of East West medical college Hospital in September 2025 with the complain of fever, weakness of the body, pain in joints and muscle, he suddenly develops slurring of speech and respiratory distress. The fever sub sided after taking paracetamol. On query patient complained of occasional cough which was not productive but no chest pain. There was no bowel or bladder abnormality. On general examination, patient was ill looking, nonanemic, non-icteric and vital were as such pulse 87 beats/min BP-140/90, respiratory rate 16 breaths/min, temperature 1020F, SPO2 92% on air during admission. On systemic examination of the nervous system, he was conscious but disoriented with slurring of speech, severe muscle and joint pain. All the reflexes of upper and lower limb were intact. Co-ordination could not be performed due to decrease muscle power and pain. Sensory system was intact. His investigation was performed, CBC with ESR, S. Creatinine, RBS, HbA1c, SGPT, S. Lipid Profile, S. Electrolyte, CRP, ECG, Echo, MRI of Brain, HRCT showed pneumonic consolidation, High ESR, High CRP, Blood sugar is also high. Other test revealed no abnormality. Sputum of the patient was sent for C/S. Isolated organism was klebsiella pneumonia which was sensitive to antibiotic cefotaxime. The patient was started with antibiotic cefotaxime and steroid methyldopa immediately. Patient responded well. He was discharged with ibuprofen and oral steroid taper for joint and muscle pain.

Discussion

This patient showed respiratory that infection with pneumonia. Respiratory tract related infection is a risk factor for acute cardiovascular disease[6]. Inflammation during active viral infection can increase the risk of Ischemic stroke. Through change in blood pressure, coagulation, immune response and endothelial function[7]. This patient also showed sever joint and muscle pain. Patient also talking incoherently with disorientation of place & time.

Neurological manifestations are now being recognized as sequelae of Chikengunya[8]. Encephalopathy has been shown to have various manifestation with different severities[9]. It should be noted that arthralgia from chikungunya infection can be similar with rheumatoid arthritis and gives diagnostic dilemma. American college of rheumatology highlighted overlapping clinical features of the two diseases. Detection of antibody in this patient was IgM antibody by Elisa method. But diagnosis was confirmed done by RT-PCR method[10].

This case highlights an atypical presentation of Klebsiella pneumoniae pneumonia in an elderly patient, complicated by acute neurological manifestations and severe musculoskeletal symptoms. Elderly patients often present with non-specific or unusual features of infection due to immunosenescence, multiple comorbidities, and altered inflammatory responses, which can delay diagnosis and treatment. In the present case, fever, generalized weakness, myalgia, and arthralgia were the initial complaints, followed by sudden onset of slurring of speech and respiratory distress, raising suspicion of a neurological event such as stroke or encephalitis.

Several studies[10-12] have reported that community-acquired pneumonia in older adults may present with

atypical symptoms including confusion, disorientation, or functional decline rather than classical respiratory features like productive cough or pleuritic chest pain. Similar to our case, studies from Asia have shown that Klebsiella pneumoniae pneumonia can present with high-grade fever, systemic inflammatory response, and minimal respiratory symptoms in the early phase. The presence of hypoxia (SpO_2 92% on room air) and HRCT findings of pneumonic consolidation supported the diagnosis despite the absence of productive cough or chest pain.

The neurological manifestations observed in this patient disorientation and slurred speech with preserved reflexes and intact sensory function were transient and resolved with appropriate antimicrobial and supportive therapy[11]. MRI of the brain showed no structural abnormality, suggesting a metabolic or inflammatory encephalopathy rather than an ischemic or hemorrhagic stroke. Similar findings have been described in previous studies where sepsis-associated encephalopathy or infection-related inflammatory responses led to acute but reversible neurological dysfunction[12]. In contrast, some studies have reported true cerebrovascular events precipitated by severe infection due to hypercoagulability and endothelial dysfunction, which was not evident in this patient.

Severe muscle and joint pain with reduced muscle power but intact reflexes and sensation raised the possibility of inflammatory myositis or systemic inflammatory response syndrome (SIRS)-related myalgia. High ESR and CRP levels supported a significant inflammatory state. Comparable cases in the literature describe marked myalgia and arthralgia in bacterial pneumonia, particularly in elderly and diabetic patients, attributed to cytokine-mediated muscle inflammation. However, unlike inflammatory myopathies reported in some studies where creatine kinase levels are markedly elevated and muscle weakness persists, our patient showed rapid clinical improvement with steroids and antibiotics, indicating a reversible inflammatory process.

Hyperglycemia noted in this patient is another important consideration[11]. Stress-induced hyperglycemia is commonly reported in severe infections and is associated with poorer outcomes. Some studies have shown that elderly patients with undiagnosed or poorly controlled diabetes are at higher risk of severe Klebsiella infections. In this case, although blood sugar levels were high, there was no evidence of diabetic ketoacidosis or hyperosmolar state, and glycemic control improved with treatment of the underlying infection.

Microbiological confirmation of Klebsiella pneumoniae sensitive to cefotaxime guided targeted antibiotic therapy. Several regional studies[13-14] reports increasing antimicrobial resistance among Klebsiella species, including ESBL-producing strains, which often require carbapenems. In contrast, the isolate in this case was sensitive to cefotaxime, and the patient showed good clinical response, highlighting the importance of culture and sensitivity testing to avoid unnecessary use of broad-spectrum antibiotics.

The use of systemic steroids in this patient contributed to rapid improvement of inflammatory symptoms, including muscle and joint pain and possibly encephalopathic features[14]. While some studies caution against routine steroid use in bacterial pneumonia due to potential immunosuppression, others support their short-term use in severe inflammatory states or septic shock. In this case, careful use of steroids with close monitoring resulted in a favorable outcome without complications.

Conclusion

In conclusion the Chikungunya fever outbreak was in Dhaka, during 2017. Present study shows an outbreak with no mortality but the morbidity is higher. Aedes mosquito is responsible for the transmission of Chikungunya fever in rainy season specially in June to August. During this time a good number of Dengue positive cases were found. Authority should give attention in prevention of aedes mosquito to prevent the disease.

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None

Conflict of Interest
The authors have no conflicts of interest to disclose.

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Authors' contributions
Chowdhury MZU, Zafrin CA, Johora FT was involved in conceptualization, design the work, acquisition, analysis, interpretation of data; Chowdhury MZU, Khatun S Writing – review & editing, original draft; Khatun S, Munny NN, Karim F, Ahamed M have drafted the work or substantively revised it. Chowdhury MZU took part in conceptualization, design the work, acquisition of data.
All authors accepted and approved the final version of the manuscript.

Data Availability
Any inquiries regarding supporting data availability of this study should be directed to the corresponding author and are available from the corresponding author on reasonable request.

Ethics Approval and Consent to Participate
Not Applicable

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