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Fulminant Chikungunya – An Emerging Presentation

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Abstract

Though being endemic in various continents of the world, the chikungunya virus is still not completely understood. Chikungunya can be presented with a wide range of symptoms. We report a severe case of chikungunya with toxic epidermal necrolysis in an elderly female.

Introduction

Chikungunya is usually a milder Arboviral illness as compared to dengue fever. The commonest manifestation is fever with polyarthralgia and it is usually treated on an outpatient basis. We report an unusual presentation of chikungunya fever in an elderly female presenting as acute undifferentiated fever with skin rash initially and progressing to hemodynamic instability.

Case Presentation

A 65-year female patient without pre-existing co-morbidities consulted her physician for fever with polyarthralgia of 3 days duration. Her haemogram and routine biochemistry workups were within normal limits. Her screening for dengue by rapid card test was negative. She was given symptomatic treatment and considered the diagnosis of viral illness. On day 4 of illness, she suddenly became breathless and was immediately rushed to the hospital. On arrival to the emergency room, she was vitally unstable. Her pulse was 120 beats/ minute, systolic blood pressure was 60 mmHg and respiratory rate was 44 breaths/ minute. She was admitted in the intensive care unit and was given ventilator support. There was refractory hypotension. Her arterial blood gas analysis revealed metabolic acidosis. Her haemogram revealed leucocytosis with 12,600 cells/cu.mm and a normal platelet count. Her renal and liver functions were within normal limits. Her radiology workup including chest skiagram was normal while abdominal ultrasound revealed mild hepatosplenomegaly. Her blood was sent for serology for dengue fever, enteric fever, rickettsial fever, and leptospirosis considering them as differential diagnosis. Blood cultures were ordered. Her blood was sent for a multiplex Polymerase Chain Reaction (PCR) panel for tropical fevers which includes dengue virus, chikungunya virus, leptospira, malaria, west nile fever, rickettsia, and salmonella. She was given injection of meropenem and tigecycline. Her workup for dengue was negative by Enzyme Linked Immunosorbent Assay (ELISA). Her serology for rest all the diseases turned out to be negative. Her PCR panel came positive for chikungunya. On day 5 of illness, we noticed lesions with a sheet of blistering and peeling of skin with a positive Nikolsky sign on her upper back which was diagnosed as Toxic Epidermal Necrolysis (TEN) (Figure 1). On day 6, in spite of aggressive management, her hypotension was progressive with drop in urine output and impending renal shutdown. She was given hemodialysis for the same but she succumbed to her illness.



Figure 1: TEN (toxic epidermal necrolysis) lesions with a sheet of blistering and peeling of skin

Discussion

Although chikungunya infection is usually benign, increasingly frequent reports have associated chikungunya with decompensation of several pre-existing diseases and an unexpected number of deaths [1]. Various types of skin lesions have been reported with chikungunya fever, like maculopapular rash, petechial rash, bullous lesions and hyperpigmentation; maculopapular rash being the commonest [2]. Bullous lesions are usually seen with severe chikungunya because the virus



induces keratinocyte necrosis followed by a cytotoxic immune response [3]. Our patient had a fulminant course of illness with bulbous type of skin lesions. A number of novel mutations have been reported in Indian studies that might have an effect with respect to the adaptability of the virus, spread, and disease severity [4]. The disease management in such cases remains supportive and symptomatic [5].

Conclusion

Chikungunya is still to be fully understood. Severe chikungunya cases though rare may not be uncommon in endemic areas. Until now, no effective vaccine or antiviral has been approved so early diagnosis and treatment remains the mainstay of the diseases management. Understanding the pathogenesis of various dermatological manifestations of chikungunya may guide the clinician about the progress of the disease and may help them modify the management accordingly.

Conflicts of Interest: None

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