

## A RARE MANIFESTATION OF CHIKUNGUNYA INFECTION: MENINGO MYELOTORADICULO-NEUROPATHY

Dr Rohith KP\* ,Dr Prof J.B Agadi#, Dr Sujith Kumar \*\*, Dr Pramod MN\*\*, Dr Sindhu DM\*\*, Dr Jayanth SS.\*\* Apollo Hospital , Seshadripuram , Bengaluru, Karnataka.\* DrNB Resident Neurology, # HOD Neurology,\*\* Consultant Neurologists.

**INTRODUCTION:** Chikungunya fever is a viral disease transmitted to human beings by infected *Aedes aegypti* mosquitoes<sup>1</sup>.

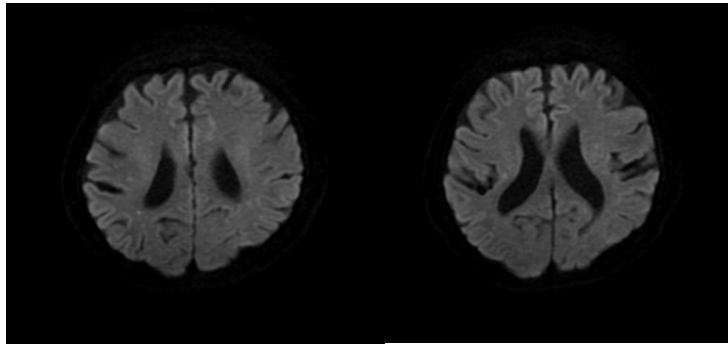
**CASE REPORT INITIAL PRESENTATION:** 67 year gentleman, Right handed, Current Legislator and a former minister, Govt of Karnataka with Comorbidities: Seizure disorder-presented with Fever, Myalgia & Weakness of 03 days. O/E: Both hands – small joint swelling & tenderness +, Both foot: Joint tenderness:+. Systemic examination: Normal, Routine hemogram & metabolic panel work up done. Tropical Panel: **Chikungunya RT PCR Positive**. Managed symptomatically as case of : **Chikungunya -Viral Fever, SIADH** , Discharged on request after 03 days of hospitalization, Sodium (Na) at discharge: 131 mEq/L. Discharge medication: Doxycycline, Tolvaptan, Levetiracetam & analgesics.

➤ After 03 days presented with c/o hallucinations, impaired recent memory, vomiting & disabling generalized weakness of 01 day duration

➤ O/E: GPE: **CHIK sign +**, Disoriented, Obeying commands, No focal neurological deficits. Urgent MRI Brain was done. CSF Study: 98 cells , 98% lymphocytes, Protein: 175 mg/dl, Glucose: 62 mg/dl, **PCR CSF for Chikungunya: Positive**. He was treated with IV antibiotics, antivirals & other supportive therapy.



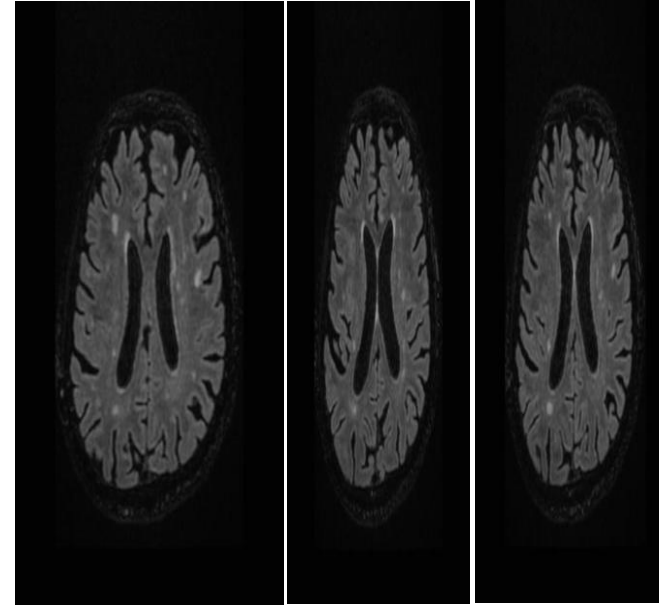
**CHIK SIGN**



**MRI BRAIN: NORMAL STUDY**

02 days after hospitalization, he developed urinary retention. Repeat MRI Brain (Plain & contrast) with whole spine screening was done

He was treated with IV MP 1 gm X 05 days & Supportive Therapy. In view of persistent unsteady gait, weakness of limbs, urinary hesitancy, Treated with IV IG 2 gm/ kg over 05 days. Post IV IG: gait unsteadiness/weakness had improved. He had minimal dysarthria , gait ataxia +, he was ambulant with support.



**MRI BRAIN: B/L FRONTO-PARIETAL WHITE MATTER DWI HYPERINTENSE LESIONS**



**MRI SPINE: SUBTLE T2/STIR CORD HYPERINTENSITY WITHOUT CONTRAST ENHANCEMENT – POSTERIOR ASPECT OF CERVICAL CORD C3-C4**

**IMPRESSION: CHIKUNGUNYA MENINGO ENCEPHALO-MYELOPATHY**

Presented after 02 weeks with 01 week h/o progressive weakness of of 04 limbs , lower limbs > upper limbs, Fecal incontinence of 02 days duration. O/E: Motor System : wasting + in all 04 limbs, tone decreased in all 04 limbs, occasional flexor spasms in bilateral lower limbs + , Power : Upper limb : Proximal Gr 4, distal grade 3+, Bilateral lower limbs: Gr 1,DTRs: Absent in all four limbs, Bilateral Babinski. He had Impaired sensation below D4 on right , D7 on left. Underwent -5 cycles of PLEX. Condition on discharge: Stable, Conscious, Alert, Normal speech, Upper Limb: Power grade 3-4, Lower limb: no flicker

## DISCUSSION:

Described More Frequently	Described Less Frequently
Encephalopathy and encephalitis	Seizures with or without fever
Myelopathy and myelitis	Behavioural changes
Encephalomyelopathy	Sensorineural hearing loss
Myeloneuropathy	Stroke
Encephalomyeloneuropathy	Cerebellitis
Guillain-Barré syndrome	Meningism
Acute disseminated encephalomyelitis	Third nerve palsy
Neonatal hypotonia	Encephaloneuropathy
Neuro-ocular disease (uveitis, retinitis, optic neuritis)	Carpal tunnel syndrome
	Bilateral total ophthalmoplegia
	Mild encephalitis with a reversible lesion of the splenium
	Bickerstaff brainstem encephalitis-Miller Fisher syndrome-Guillain-Barré syndrome overlap

<sup>2</sup> NEUROLOGICAL MANIFESTATIONS OF CHIKUNGUNYA INFECTION

Encephalitis	12
Bulbar palsy	03
Acute disseminated encephalomyelitis	01
Cerebellitis	01
Myelopathy	01
Radiculo-neuropathy	03
Carpal tunnel syndrome	09
Tremors	01

<sup>3</sup>Neurological complications in patients of CHIKV during the 2016 outbreak in Delhi

## Neurological syndromes

Encephalitis	<i>n</i> = 27
Myelopathy	<i>n</i> = 07
Myelo-neuropathy	<i>n</i> = 07
Peripheral neuropathy	<i>n</i> = 07
Myopathy	<i>n</i> = 01
Total	<i>n</i> = 49

<sup>4</sup>Neurological complications in patients of CHIKV during the 2006 outbreak in Nagpur

**CONCLUSION:** The case highlights importance of early recognition of infective neurological complications, and prompt treatment with immunomodulation in early stage is beneficial.

**REFERENCES:** 1. Robinson MC. An epidemic of virus disease in Southern Province, Tanganyika Territory, in 1952-53. I. Clinical features. *Trans R Soc Trop Med Hyg.* 1955;49(1):28-32. ,  
2. Mehta R, Gerardin P, de Brito CAA, Soares CN, Ferreira MLB, Solomon T. The neurological complications of chikungunya virus: A systematic review. *Rev Med Virol.* 2018; 28:e1978.,  
3 Anand KS, Agrawal AK, Garg J, Dhamija RK, Mahajan RK. Spectrum of neurological complications in chikungunya fever: experience at a tertiary care centre and review of literature. *Tropical Doctor.* 2019;49(2):79-84. doi:10.1177/0049475518825219  
4. Chandak NH, Kashyap RS, Kabra D, Karandikar P, Saha SS, Morey SH, Purohit HJ, Taori GM, Dagainawala HF. Neurological complications of Chikungunya virus infection. *Neurol India.* 2009 Mar-Apr;57(2):177-80. doi: 10.4103/0028-3886.51289.