PICTORIAL CME

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Multifocal Varicella-Zoster Virus Vasculopathy in an Immunocompetent Individual

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A 42-year-old male patient presented in the emergency department with complaints of vesicular rash over his body for 9 days which was preceded by one day fever. On the sixth day of illness, he developed sudden onset weakness of his right upper and lower limbs with altered sensorium. On seventh day of his illness he started having dyspnoea along with blackish discoloration of the right hand and foot.

On examination, there were multiple crusted vesicles over his body along with digital gangrene of right upper and lower limbs (Figs. 1,2). He had motor weakness of right upper and lower limb with a GCS of E3V2M4. Blood investigations showed leukocytosis with normal biochemical parameters. Blood tests for HIV, ANA and ANCA were negative. Chest X-ray showed bilateral interstitial infiltrates with area of consolidation involving lower upper and lower zones of left lung. Arterial Doppler of lower limb showed absent flow in right superficial femoral artery. 2 D-echocardiography done to look for cardiac thrombus was normal. Non-contrast computed tomography (NCCT) scan showed hypodense lesions present in left parieto-occipital and right frontal region suggestive of cerebral infarction (Fig. 3). PCR done from skin scraping was also positive for varicella-zoster virus. A diagnosis of multifocal varicella-zoster virus vasculopathy in form of right upper and lower limb gangrene with CNS infarcts and lower respiratory tract infection was made. Patient was shifted to intensive care unit and was started on intravenous acyclovir and empirical broad spectrum antibiotics. In view of vasculopathy, prednisone was also initiated at dose of 1mg/kg. However, his condition further deteriorated and was put on mechanical ventilation in view of altered sensorium and respiratory distress. The patient eventually succumbed to his illness after 2 days of admission.

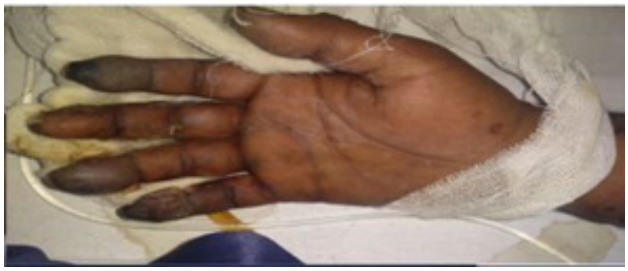

Fig. 1: *Digital gangrene of right upper limb.*

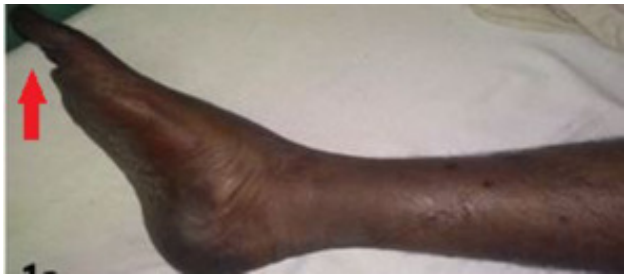

Fig. 2: *Digital gangrene of right lower limb.*

Varicella zoster virus is a neurotropic DNA virus, known to become latent in ganglionic neuronal cells and reactivation leads to skin manifestation known as zoster. Uncommonly in immunosuppressed individuals, it can lead to varicella vasculopathy. But it is rare for immunocompetent individuals to present with varicella vasculopathy. Varicella is a common cause of stroke in pediatric age group but its incidence in adulthood is unknown[1]. Central nervous system manifestations of Varicella zoster virus vasculopathy include cerebral arterial thrombosis, aneurysms, intracranial haemorrhages even rarely spinal cord infarction[2]. Except for few case reports, peripheral artery disease is rarely reported in patients with

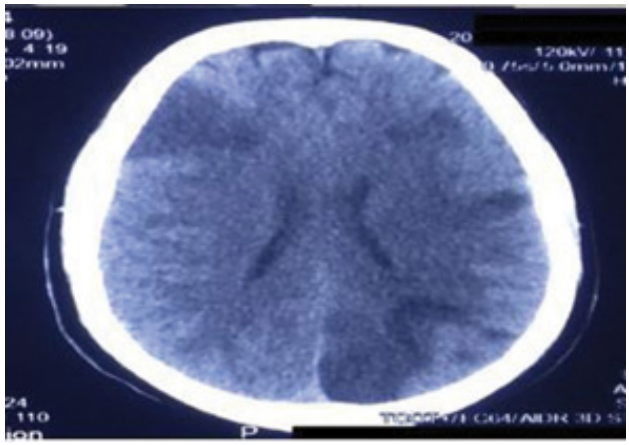

Fig. 3: *NCCT head showing multiple infarcts.*

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varicella vasculopathy. In a cohort study, Lin *et al* tried to elucidate the risk of peripheral arterial disease in a patient with Herpes Zoster infection and found that there is a 13% increased risk among HZ cohort than in the non-HZ cohort[3]. Various mechanisms for vasculopathy include increase in prothrombotic auto antibodies like anticardiolipin antibodies and vascular remodeling[4]. Prompt treatment with acyclovir is indicated in patients with varicella vasculopathy. Few case reports have reported the benefit of steroids in varicella vasculopathy but we could not show the beneficial effects in our case because of the short and fulminant course of the disease.

References

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