Sir,

Posterior reversible encephalopathy syndrome (PRES) is a clinicoradiologic entity characterized by T2 weighted/T2 fluid attenuated inversion recovery (FLAIR) hyper intensity in the bilateral parietooccipital region along with minimal diffusion restriction and no enhancement on contrast magnetic resonance imaging (MRI). Demonstration of reversible nature is essential for diagnosis. The underlying factors well described include eclampsia, sepsis, hypertension, acute renal injury, and organ transplantation. Among infections, gram-positive sepsis and toxemia is associated with PRES\(^1,2\) but literature on scrub typhus infection and PRES is scarce. Here, we report a 14-year-old female child who presented with scrub typhus febrile respiratory illness with seizures and changes of PRES which were reversed in 4 weeks duration.

A 14-year-old female child presented with mild holocranial headache and three episodes of generalized tonic-clonic movements starting abruptly in the morning. She had history of fever and upper respiratory tract infection 6 days prior to the onset of seizures. On admission, she was drowsy but arousable and in postictal confusion. Vital parameters including serial blood pressures were stable. General physical examination and cranial nerve examination were normal. There was no eschar seen. The tone was normal. She spontaneously moved all four limbs. All deep tendon reflexes were normal. Her plantars were mute bilaterally. Terminal neck rigidity was present. There was no organomegaly but chest auscultation revealed conducted sounds and crepitations in the left lower zone. Injection phenytoin was administered in loading dose and was continued in maintenance doses. She regained consciousness within next 2 h. Over next 2 days, she had 1–2 fever spikes of 100° F after which it resolved. Complete blood counts showed leukocytosis with normal platelet count. ESR was 24. Liver and renal function tests were unremarkable. MRI Brain revealed asymmetric bilateral T2 and T2 flair hyperintensities in the parietooccipital and frontal region (right >left) with patchy diffusion restriction with no fall in corresponding apparent diffusion coefficient component and no contrast enhancement suggestive of posterior reversible encephalopathy syndrome [Figure 1]. Possibility of postictal changes was less due to the typical location of changes, sparing of corpus callosal splenium, and absence of prominent diffusion restriction with ADC fall. Looking at the clinical scenario, the possibility of PRES associated with meningitis or vasculitis was kept. Electroencephalogram and cerebrospinal fluid studies were normal. Detailed investigations for febrile illness were negative for enteric fever, malaria, leptospira, dengue, and chikungunya infections. Retrovirus status was negative. However, scrub typhus IgM ELISA was positive. Skiagram chest showed left lower zone haziness. Computerized tomography (CT) chest revealed bilateral interstitial edema with mild left-sided pleural effusion. USG abdomen, CT angiographic studies of brain, and vasculitic profile were within normal limits. Hence, scrub typhus infection associated PRES was considered. IV ceftriaxone was administered in doses of 1 g IV twice a day for 5 days and stopped as her CSF was sterile. Capsule doxycycline 100 mg twice a day was given for 10 days. She remained seizure free during the hospital stay and was discharged in stable condition after 10 days. She was continued with maintenance doses of phenytoin for 3 months and then tapered.

A follow-up MRI brain was done 4 weeks later which showed complete resolution of brain lesions [Figure 2]. The reversible nature of these altered intensity signals further reinforces the diagnosis of PRES and clinically the patient was doing well on follow-up.

PRES is a clinicoradiologic entity commonly presenting with acute onset seizures, headache, visual disturbances with underlying background history of eclampsia, sepsis, hypertension, acute renal injury, organ transplantation, etc., It is characterized by T2/T2 FLAIR hyperintensity in the bilateral parietooccipital region along with minimal diffusion restriction and no enhancement on contrast MRI\(^1,2\). These lesions are completely reversible within 2–4 weeks as the underlying

![Figure 1:](image-url)
etiology resolves. Among infections, gram-positive organisms have been attributed to PRES commonly. There are only few case reports describing other infectious agents implicated in etiology of PRES. On the other hand, scrub typhus is a rickettsial illness which presents with a wide spectrum of manifestations ranging from mild febrile illness to multisystem dysfunction. Respiratory system involvement is seen in up to 20%–72% of cases which was present in our case. There is scarce literature on neurological manifestations associated with scrub typhus infection. It can be in the form of encephalitis, encephalopathy, immune-mediated involvement resulting in optic neuritis, myelitis, acute disseminated encephalomyelitis, and neuropathy. Radiological changes usually described are involvement of subcortical and periventricular hyperintensities, with, which resolves in weeks. Our patient had scrub typhus febrile respiratory illness with PRES like changes which resolved within 4 weeks. Endothelial cell dysfunction and vasculitic/perivasculitic changes well known to be induced by rickettsial organisms is quite the plausible explanation for posterior reversible encephalopathy syndrome seen in our patient.

Literature review shows an association between scrub typhus infection with meningoencephalitis and other neurological manifestations but scarce with PRES alone. Evidence of recent scrub typhus infection in a healthy patient presenting with clinical and radiological findings consistent with PRES raises the question of scrub typhus infection being a trigger for PRES. In our patient, the diagnosis of scrub typhus infection is apt because of a common clinical scenario of respiratory febrile illness and positive IgM antibodies presenting with typical symptomatology and imaging features of PRES, which resolved completely on follow-up.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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