

## Letters to the Editor

Dear Editor,

HUMAN PARECHOVIRUS CENTRAL NERVOUS SYSTEM INFECTION:  
A RARE CAUSE OF NEONATAL ENCEPHALITIS

Human parechoviruses (HPeVs) belong to the family of Picornaviridae and has variable manifestation, including diarrhoea, hepatitis, sepsis, meningitis and encephalitis. However, detection of HPeV is not routinely included in sepsis workup. We report clinical spectrum, laboratory and radiological findings of two neonates with HPeV central nervous system (CNS) infection.

In case 1, 9-day-old baby presented with irritability and poor feeding. He was apyrexial but deteriorated with apnoeas and encephalopathy needing ventilation. In case 2, 12-day-old baby presented with intermittent focal clonic seizures involving the face and limbs with no associated pyrexia. A complete septic screen on both neonates including inflammatory markers and TORCH screen were negative. A cerebrospinal fluid (CSF) examination revealed 0 white cells, normal protein and glucose in both cases. Magnetic resonance imaging (MRI) brain (Fig. 1) revealed features suggestive of HPeV infection that was subsequently confirmed by CSF polymerase chain-reaction in both neonates. Both cases received a week of intravenous antibiotics and acyclovir and spontaneously recovered with normal neurodevelopment at 6 months follow-up.

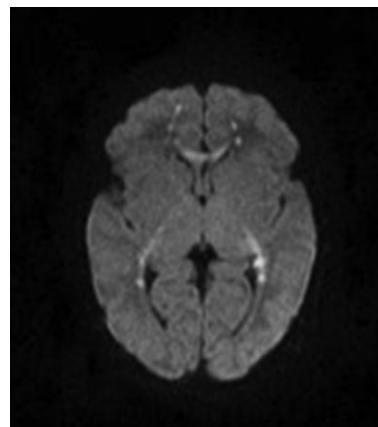
HPeV 1 and HPeV 3 are the most commonly reported subtypes associated with meningoencephalitis.<sup>1</sup> Virus transmission is usually following contact with infected siblings or parents. Affected children can continue to excrete the virus even after cessation of symptoms. Serum inflammatory markers and CSF microscopy and culture are usually unremarkable.<sup>1–4</sup> Diagnosis is aided by characteristic MRI findings, and the virus can also be isolated from nasopharyngeal swabs and stool culture, but CSF HPeV PCR confirms the diagnosis.<sup>1–4</sup>

The characteristic MRI findings include multiple subcortical and white matter lesions with marked restricted diffusion that usually become gliotic on follow-up.<sup>4</sup> Treatment is primarily supportive, although some authors suggest the use of intravenous immunoglobulins in those with seronegative mothers.<sup>3</sup>

Although our cases recovered spontaneously with no neurological sequelae, there have been reports of unfavourable outcome with development delay, intractable seizures and death.<sup>2</sup> Verboon-Macielek *et al.* reported long-term outcome in nine infants with HPeV who had seizures on presentation. Of these, five had normal outcome, one developed epilepsy, two moderate–severe neuro-disability and one ‘suspect outcome’ with possible mild impairment. Both children who had adverse neurological outcome had extensive lesions seen on MRI brain.<sup>4</sup>

In conclusion, HPeV encephalitis is a rare but emergent cause of neonatal sepsis, and paediatricians should consider this pathogen as part of neonatal sepsis workup. Characteristic neuroimaging findings may aid to early diagnosis, with extensive involvement pointing to an adverse neurodevelopmental outcome.

Conflict of interest: None declared.



**Fig. 1** Multifocal parenchymal lesions with marked restricted diffusion in the white matter along with corpus callosum.

Dr Jia Yi Leow  
Professor Rajat Gupta  
Dr Aman PS Sohal  
Neurology Department  
Birmingham Children's Hospital  
Birmingham  
UK

## References

- 1 Legay V, Chomel JJ, Fernandez E, Lina B, Aymard M, Khalfan S. Encephalomyelitis due to human parechovirus type 1. *J. Clin. Virol.* 2002; **25**: 193–5.
- 2 van Zwol A, Lequin M, Aarts-Tesselaar C *et al.* Fatal neonatal parechovirus encephalitis. *BMJ Case Rep.* 2009; **2009**. doi: 10.1136/bcr.05.2009.1883.
- 3 Al Maamari K, Docherty C, Aitken C. ‘Twin’ viruses. *J. Clin. Virol.* 2009; **44**: vi.
- 4 Verboon-Macielek MA, Groenendaal F, Hahn CD *et al.* Human parechovirus causes encephalitis with white matter injury in neonates. *Ann. Neurol.* 2008; **64**: 266–73.

Dear Editor,

IMPLICATIONS OF CIRCUMCISION COMPLICATIONS FOR HOSPITAL  
POLICY

The recent paper by Gold *et al.* on complications following circumcision<sup>1</sup> raises important issues.

Firstly, since circumcision based on parental choice is not currently permitted in public hospitals, the 54.5% performed for ‘non-medical reasons’ and a proportion of the 14.4% for

Author contributions: BJM – all.

Declaration of conflict of interest: None.