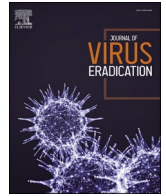


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Letter to the editor

Langya virus outbreak in China, 2022: Are we on the verge of a new pandemic?



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Dear Editor

Langya henipavirus (LayV) is an emerging pathogen that belongs to the family Paramyxoviridae. It has been recently widely related to the Hendra (HeV) and Nipah (NiV) species, the latter having a high fatality rate¹ and are known to be able to infect both humans and animals. LayV belongs to the *Paramyxoviridae* family.² Zoonotic HeV has its origin in Australia and infects horses, while NiV has an animal reservoir in fruit bats and has caused multiple outbreaks in South East Asia.³ LayV genome comprises 18,402 nucleotides.⁴ It is a zoonotic pathogen; in the vicinity of human cases, the rate of LayV antibodies was 5% in dogs and 2% in goats.³ LayV RNA was isolated from 27% of 267 shrews (small mole-like animals),² its main animal reservoir, suggesting that shrews are a possible reservoir for human transmission. However, the exact mechanism of its spread to humans is still unknown. The range of symptoms includes fever, fatigue, and cough² to fatal encephalitis.

The first ever hint of LayV human transmission emerged in China when a 53-year-old farmer visited a hospital in Shandong province in December 2018 who presented with fever and a history of contact with animals within a month of symptom onset.² The LayV genome, was detected in throat swabs of the aforementioned farmer upon enrollment into a screening study for zoonotic diseases. This study included 35 patients from 3 hospitals of Shandong and Henan provinces who were suspected to be infected by LayV.⁵ Results from this study show the presence of the LayV genome in 26 out of 35 of the study participants, suggesting that LayV was the sole cause of the illness.⁶ Out of these 26 cases, all had a fever, 50% a cough, 46% myalgia, 35% a headache, and vomiting was present in 35% of them. Fifty-four percent of them had leukopenia, 35% thrombocytopenia, with some showing abnormal liver function.⁷ Most of them were farmers and some factory employees,³ which suggests that LayV human infection bears a relationship with farmers' environmental exposure. When 15 close family contacts of 9 patients, were investigated there was not signs of infection,³ which suggests sporadic transmission in humans, however, the sample size was small to draw firm conclusions. No clusters of cases were found within the same family or geographical proximity.² None of all patients infected with LayV in China have been reported to have died, so the fatality rate

is still not totally clear.⁷ t.

The threat is that we are unaware of what these adaptations might be and what might these adaptations do and thus possess the potential to unlock several means of global spread. However, we can take a breath of relief as no human-to-human transmission has yet been reported.⁸ So, there are high chances that LayV cannot become a pandemic in contrast to COVID-19. Living in a world of pandemics like COVID-19 and monkeypox, we must keep close eyes on emerging infectious diseases like LayV. As little is known about the pathogenicity of LayV, further research should focus more on knowledge of viron to reach the root mechanism behind its infectivity and spread. Strategies for community-based surveillance should be developed to combat the LayV outbreak. Investigations should be carried out to know more about the exact mode of transmission; help can be sought from already discovered cousin viruses, HeV and NiV, to know more about LayV, its structure, and mode of spread to detect and promptly contain the disease timely. Planning of outbreak management strategies is the need of the hour as the emergence of LayV in eastern China suggests how effortlessly this virus can spread, unobserved, from animals to humans⁵ and thus possesses the potential to be a global threat. Out of 26 patients who tested positive for LayV, the intensity of disease was found to be severe in patients with compromised immunity.⁹ This emphasizes the need to focus on immunity boosters to prevent disease progression. Centers of disease control and prevention (CDC) suggest symptomatic management of complications with supportive care; however, trials in laboratory studies have shown beneficial results with antiviral ribavirin.⁶ We suggest that extensive research is necessary in the area of vaccines and antiviral treatments.

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Authors' contributions

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Abbreviations: LayV, Langya henipavirus; HeV, Hendra virus; NiV, Nipah virus.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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