Investigation and response to Monkeypox virus infection in Kerala, India, July 2022

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Monkeypox (MPX) cases, endemic in African countries since the 1970s, have been reported in non-endemic countries in 2022. On Jul 23, 2022, World Health Organization declared the MPX outbreak a Public Health Emergency of International Concern. India initiated surveillance for MPX at international airports. On Jul 12, 2022, a traveller from United Arab Emirates (UAE) visited a private hospital in Kollam district, Kerala, for fever, myalgia and rash. He was suspected of MPX and referred to a tertiary care hospital, where he was hospitalised. The samples were sent to ICMR-National Institute of Virology, Pune, for confirmation. The laboratory testing with real-time PCR for Orthopoxvirus MPXV confirmed the diagnosis. Following this, the state and district surveillance units-initiated contact tracing. All identified contacts were followed for 21 days. In addition to the routine surveillance through the Integrated Disease Surveillance program, stimulated passive surveillance was established at government and private hospitals in the state and continued airport surveillance. Protocols were laid out for sample collection, and designated testing labs for real-time PCR for Orthopoxvirus MPXV were identified. From Jul 12 2022 to Feb 18, 2023, 130 suspected cases were screened, of which 65% were international travellers. The median age of the suspect cases was 30 years (IQR 15,40), and 89 (68%) were males. Besides the rash, the presenting symptoms among the suspected case patients included fever (60%), headache (11%), lymphadenopathy (4%) and myalgia (10%). Among the suspected travellers 40% were from middle eastern countries, 25% (21) from the UK, four from USA, two from New Zealand, and one each from the Netherlands, Egypt, Canada, Maldives and South Africa. 10 (8%) of the 130 suspected cases were positive for MPXV infection (Table 1). All ten confirmed cases were identified in government or private hospitals, where they sought treatment for symptoms. Their median age was 33 (IQR 28,35), and 8 were males. Nine confirmed case-patients travelled to India from different cities in the UAE and were not epidemiologically linked, except one female patient whose spouse was positive for MPX. The documented clinical profile of MPX cases was consistent with the literature except for one death due to encephalitis (Table 2). The lack of disease development in any contacts indicated that it was not easily transmissible. One of the suspected cases turned positive for buffalo pox. With several travellers coming to India from countries where MPX cases have been reported, cases of MPX in India were expected to increase. Screening of incoming passengers in all international airports has inherent limitations. Such screening is expected to detect patients with lesions on exposed body parts such as the face or palms. And likely to miss lesions on genital/un-exposed regions. The stigma associated with the disease is expected to influence the health-seeking behaviour of suspected patients. Hence, increasing awareness of private and public health providers to suspect MPX in patients presenting with a vesiculo-pustular rash would be crucial in detecting MPX cases early and preventing further transmission. Early detection and timely response can prevent MPXV infection transmission in India.

Author contributions
Study design – MV, LGG, AMJ, AU.
Study implementation - MV, LGG, AMJ, AU, PY, SR, AB,
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Declaration of competing interest
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