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Letter to the Editor

First sighting of human H5N1 in Australia: A detailed account and public health implications

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On May 22, 2024, Australia reported its first confirmed case of human infection with avian influenza A(H5N1) virus to the World Health Organization (WHO) [1]. This incident marked a significant development in the epidemiological landscape of Australia, highlighting the nation's public health challenges and response mechanisms. This case also highlights the broader context of H5N1's global spread, with earlier cases reported in the United States and Vietnam in 2024 [2,3].

The notification came from Australia's International Health Regulations (IHR) National Focal Point (NFP). This case involved a 2.5-year-old female child with no underlying health conditions. The child had a history of travel to Kolkata, India, from February 12 to February 29, 2024, and had returned to Australia on March 1, 2024. Upon her return, she was admitted to a hospital in Victoria on March 2, 2024, because of symptoms. On March 4, she was transferred to the intensive care unit of a referral hospital in Melbourne because of worsening symptoms. The patient was discharged after a 2.5-week hospital stay and is now clinically well. The WHO Collaborating Centre (WHO CC) for Reference and Research on Influenza in Australia initially notified the NFP of a suspected case on May 17, 2024. The H5N1 infection was confirmed by the Victorian Department of Health on May 18, 2024. Subsequently, the NFP of Australia informed the NFP of India about the confirmed case on May 21, 2024, and WHO was notified the following day.

The H5N1 virus, primarily an avian influenza virus, can infect humans, leading to a range of symptoms, from mild respiratory illness to severe disease and death. According to the WHO, from 2003 to May 22, 2024, 891 human cases of H5N1 have been reported globally, including 463 deaths. Most human cases are associated with direct contact with infected poultry or contaminated environments. In this particular case, the child likely contracted the virus in India, where H5N1 has been detected in birds. After returning to Australia, the child exhibited symptoms starting on February 25, 2024, including loss of appetite, irritability, fever, cough, and vomiting. She sought medical attention on February 28, 2024, in India, where she was treated with paracetamol. On arrival in Australia, her condition worsened, leading to hospitalization.

Laboratory analysis of nasopharyngeal swab and endotracheal

aspirate samples collected on March 6 and 7, 2024, respectively, confirmed the presence of influenza A. These samples, sent to the WHO CC for further characterization, identified the virus as A(H5N1) and indicated that the haemagglutinin (HA) gene belonged to clade 2.3.2.1a, a strain common in Southeast Asia. The Australian Government Department of Health and Aged Care responded promptly by convening a Monitoring and Investigation Team (MIT) on May 20, 2024. The National Incident Centre was activated to coordinate the response, and public health advisories were issued by the Chief Health Officer of Victoria and the Interim Australian Centre for Disease Control. These advisories emphasized the importance of seasonal influenza vaccination and provided guidance on avoiding high-risk environments, such as live animal markets and poultry farms.

The Ministry of Health and Family Welfare in India initiated an epidemiological investigation upon receiving notification from Australia. This collaborative approach underscores the global nature of disease surveillance and the importance of international cooperation for managing public health threats. The WHO assesses the risk to the general population as low, given that H5N1 viruses do not easily infect humans and human-to-human transmission is rare. However, the potential for further sporadic cases remains, particularly as the virus continues to circulate in poultry [4,5].

Laboratory tests are essential for an accurate diagnosis and management. WHO provides updated technical guidance for detecting zoonotic influenza, including the use of RT-PCR methods. There are no specific vaccines for H5N1 in humans, although candidate vaccines have been developed for pandemic preparedness [6]. This first human H5N1 infection in Australia highlights the critical need for vigilant surveillance, rapid response systems, and international cooperation to mitigate public health risks.

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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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