

Monkeypox: A Re-emerging Infectious Disease

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Dear Editor

Monkeypox is a rare zoonotic infectious disease caused by the Monkeypox viruses, a type of Orthopoxvirus of the family Poxviridae, which is endemic to Africa. The virus was first discovered in 1958 in laboratory monkeys (1). The first human case was diagnosed in 1970 in a 9-month-old infant in Zaire (the Democratic Republic of the Congo) (2). Since then, Monkeypox has become endemic in the Congo and has spread to other African countries (mainly central and western Africa) (3). Monkeypox has been reported outside Africa due to travel to endemic areas or animal contact (4). According to the European Centre for Disease Prevention and Control, on May 14, 2022, the United Kingdom Health Security Agency reported a cluster of two cases, all of which had nothing to do with travel to Africa. Recently, several other European countries have reported cases of Monkeypox. As of May 19, 2022, 38 cases have been approved worldwide (5).

In non-endemic areas, even one case of the disease is considered an epidemic. Monkeypox, usually a self-limiting illness, starts with flu-like symptoms (fever, muscle aches, chills, and fatigue). Usually, within 1 to 3 days (sometimes longer) after the onset of fever, the patient develops a rash that often starts on the face and then spreads to other body parts. Lesions may appear all over the body (6). The main difference between the symptoms of smallpox and Monkeypox is that Monkeypox causes lymphadenopathy, whereas this is not the case with smallpox (4). The differential diagnosis that should be considered includes diseases

associated with rashes, such as chickenpox, measles, bacterial skin infections, scabies, syphilis, and drug-related allergies. A definitive diagnosis is made by Polymerase Chain Reaction (PCR) test. The incubation period for Monkeypox is usually 7 to 14 days but can vary from 5 to 21 days.

The disease usually lasts 2-4 weeks (4). According to the World Health Organization (WHO), the Case Fatality Rate (CFR) of the disease is between 3 and 6% (7). Monkeypox is transmitted from person to person through close contact with an infected person or animal or body fluids, as well as respiratory droplets. Although the natural reservoir of the disease is still unknown, rodents are the most likely reservoir. Transmission through respiratory droplets usually implies close and long-term contact. Therefore, health workers and patients' family members are at risk. Vertical transmission, as well as transmission during and after labor, is also possible (7).

Health education, case finding and quarantine, isolating patients with symptoms, and contact tracing are the main strategies to prevent this disease. Vaccination is about 85% effective in preventing Monkeypox and may even help prevent or reduce the severity of the disease after exposure to the virus (8). Although the main (first generation) smallpox vaccines are no longer available to the public, the attenuated virus-based vaccine (Ankara strain) has been approved for prevention in 2019 (9). Therefore, high-risk individuals such as laboratory personnel, rapid response teams, health workers, and military

personnel should be prioritized for vaccination. The US CDC recommends that laboratory personnel investigate the virus, people involved in the care of infected people or animals, and people who have been in close contact with confirmed human or animal cases need to be vaccinated. Pre-exposure vaccination is not recommended for veterinarians unless they are involved in field research. The CDC also recommends that health personnel who contact infected persons use personal protective equipment (PPE). The infected person must be isolated in a room with negative air pressure or at least one private room (10).

Two vaccines, ACAM2000 and JYNNEOSTM (also known as Immune or Imvanex), are currently approved for smallpox in the United States, and the JYNNEOS vaccine is also licensed to prevent Monkeypox (8). There is currently no proven treatment for Monkeypox. If necessary, vaccination and some antiviral drugs such as Tecovirimat and Cidofovir, as well as immunoglobulin vaccine (VIG), can be used to treat Monkeypox (11).

Decreased immunity of populations due to the cessation of smallpox vaccination in the past has paved the way for Monkeypox. This is shown by the

increase in the number of cases and the recurrence of the disease in some countries. In addition, the emergence of cases outside Africa highlights the risk of a global spread of the disease. The possibility of human-to-human transmission concerns family members and health care providers. Given the current situation, the importance of Monkeypox should not be underestimated. Health education, vaccination, and strengthening the surveillance system are essential measures to prevent the spread of this infectious disease.

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Conflict of Interest

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