CASE REPORT

Monkeypox in Pakistan-First case report

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Abstract

Monkeypox (mpox) is an uncommon zoonotic contagious viral ailment, resulting from the poxvirus. Symptoms include fever, headache, muscle aches, and a characteristic rash. There is no specific treatment, and only a limited number of antiviral drugs and vaccines are available. Employing stringent contact and respiratory precautions is essential to curb disease transmission.

Till April 17, 2023, no mpox cases have been reported from Pakistan. Here we present the case of a 41-year-old male with a travel history to Saudi Arabia and a week-long history of multiple nodular and pustular eruptions on various parts of the body. It is essential to emphasise that due to its infrequency, a high index of clinical suspicion is imperative in facilitating an accurate diagnosis.

Keywords: mpox, MPXV, Pakistan, Travel history. Orthopoxvirus. Vaccine.

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Introduction

mpox formerly known as monkeypox infection is caused by MPXV (mpox virus). It belongs to the genus Orthopoxvirus from the Poxviridae family. The first case of human mpox was reported by Dr Ladnyj ID in 1972 from the Democratic Republic of Congo (formerly Zaire) in a nine-year-old boy who had fever and rash and later developed characteristic lesions[1] which marked the first recognised outbreak of monkeypox in the world which resulted in 31 cases, with a fatality rate of 23%. Since then, mpox has been reported sporadically in the Democratic Republic of Congo, with several larger outbreaks occurring in 1996-1997, 2003, 2005, 2017, and 2021.[2] These outbreaks have typically been associated with high morbidity but low mortality, although the 2017 outbreak had a higher fatality rate than previous outbreaks.[3]

In 2003, mpox outbreak occurred in several mid-western states of the United States which was linked to the import of infected African rodents for the pet trade and resulted in 72 confirmed cases, with no deaths reported.[4]

In 2017, an mpox outbreak was reported in Nigeria. This was the first time the disease was seen in West Africa; it resulted in 172 confirmed cases, with no deaths reported.[5]

In 2018, an mpox case was reported in a UK resident who had recently travelled to Nigeria. This was the first case in the UK and was believed to have been imported from Nigeria.[6]

In 2018, a monkeypox case was reported in an Israeli citizen who had recently travelled to Nigeria. This was the first reported case in Israel and was imported from Nigeria.[7]

In 2019, a monkeypox case was reported in a Singaporean citizen who had travelled to Nigeria. This was the first case in Singapore and was imported from Nigeria.[8]

This case report from a previously unaffected region may provide crucial epidemiological data, enhancing global understanding of monkeypox. It can play a significant role in public health surveillance, aiding in better preparedness and response strategies. Additionally, it may assist local healthcare professionals in recognizing and managing monkeypox, thereby improving patient outcomes and preventing further spread. Moreover, this report can stimulate further research into the virus's transmission dynamics, clinical presentation, and potential local risk factors.

Case Report

A 41-year-old male, a driver by occupation, originally from Pakistan but presently domiciled in Alfaisaliah district, Jeddah, Saudi Arabia, sought medical attention at the Infectious Diseases Clinic of the Pakistan Institute of Medical Sciences, Islamabad, on April 17, 2023. The patient has been residing in Jeddah for the past two decades, sharing accommodation with six co-workers in a single apartment. He is married and has three children. He has a medical history of hypertension and uncontrolled type 2 diabetes mellitus for the past five years.

His chief complaint consisted of multiple nodular lesions on the glans penis and penile shaft, which had been

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Figure-1
Multiple nodular / pustular lesions of mpox on face and palms

present for one week. Furthermore, two days before he visited Pakistan, he had developed similar nodular lesions of the same size on his face (Figure 1), trunk, extremities, palms, and soles (Figure 2). Notably, he did not report any symptoms of fever, cough, shortness of breath, or systemic complaints. The patient denied any history of sexual exposure, substance abuse, or close contact with individuals exhibiting similar symptoms in the last 21 days.

Physical examination revealed multiple umbilicated nodular lesions, some in the pustular phase, distributed on various areas of the body, including the forehead, face, lips, palms, soles, arms, trunk, glans penis, and penile shaft. Swelling and erythema were observed in the penile area. A solitary lymph node, measuring 2cm, was palpable in the right posterior cervical chain. No inguinal lymphadenopathy was noted, and systemic examination was unremarkable.

Treatment encompassed a 10-day course of oral Doxycycline (100mg BID) to address a superimposed staphylococcal bacterial skin infection. Management of diabetes and hypertension was optimised. By the 20th day of illness, all lesions had completely healed, characterised by crust formation and subsequent resolution without scarring. There were no signs of corneal or mucosal involvement.

Routine laboratory investigations, including chest X-ray and abdominal ultrasound, yielded unremarkable results. The patient tested negative for HIV, VDRL, HBsAg, and anti-HCV. Complete blood count, liver function tests, and

Figure:2

renal function tests were all within normal limits. Skin lesion samples were submitted to the National Institute of Health (NIH) for monkeypox polymerase chain reaction (PCR) analysis. Whole genome sequencing (WGS) of the virus identified it as belonging to African clade IIb, lineage A.2.1.

This report represents the first imported case of monkeypox (mpox) officially reported from Pakistan on April 21, 2023. Contact tracing of the index case was undertaken, with no symptomatic individuals identified.

Discussion

From January 1, 2022, till September 26, 2023, a total of 90,618 laboratory-confirmed cases and 663 probable cases, including 157 deaths, have been reported to WHO by 115 member states including an increasing number of cases from countries without previous documentation of disease transmission.[9] Monkeypox is a rare viral disease primarily seen in remote regions of Central and West Africa. It is transmitted to humans from animals, often rodents or monkeys, through bites, scratches, or contact with bodily fluids. Human-to-human transmission is also possible through close contact, respiratory droplets, or contaminated objects. The disease is common among those involved in MSM (male sex with male) and sex workers[10] Pregnant women, elderly, and immunocompromised patients, including HIV patients, are at risk.

The incubation period is seven to 14 days but can vary up to 21 days. Symptoms include fever, headache, muscle aches, and a characteristic centrifugal rash. Severe cases can lead to complications like bacterial infections including cellulitis, abscesses, necrotising fasciitis, severe pneumonia, encephalitis, sepsis, and septic shock. Severe mucosal involvement can lead to dehydration,

malnutrition, corneal scarring, and blindness. There is no specific treatment, but vaccination and supportive care help in managing the symptoms. Infection control measures, including isolation and protective gear, are essential. Ongoing research aims to better understand the disease and improve prevention and treatment strategies. After this first imported case of mpox in Pakistan, six more cases have been reported among travellers from Saudi Arabia till December 2023, highlighting the importance of vigilance in regions without local outbreaks. It is recommended to keep a high index of suspicion of mpox infection when examining patients presenting with the characteristic rash and a travel history to endemic areas.

Consent from the patient: Verbal Informed consent was taken from the patient for publishing his case.

Disclaimer: None to declare.

Conflict of Interest: None to declare.

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Authors' Contribution:
NA: Agreement to be accountable for all aspects of the work.