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Editorial

Introduction to Monkeypox Virus Infection, Symptoms, and Treatment

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Abstract

The infection with monkeypox virus was first identified in the year 1958 in two monkeys kept for research at the Statens Serum Institute in Copenhagen. The first human case of monkeypox was emerged in the year 1970 as endemic occurred in Central and West African countries. Later and after over 40 from the first endemic, monkeypox is being identified as epidemic in Europe and in the United States of America in the current year 2022 [1].

Keywords: *Monkeypox Virus Infection; Symptoms; Treatment*

Introduction

Monkeypox (MPV) is a rare skin infection caused by a DNA enveloped virus belong to Poxviridae family, and the genus *Orthopoxvirus* (Figure 1). This family include smallpox virus (SPX), cowpox virus (CPX), and vaccinia virus (VACV) [2]. In the year 1980, the World Health Organization (WHO) officially declared the eradication of smallpox virus (SPX) worldwide.

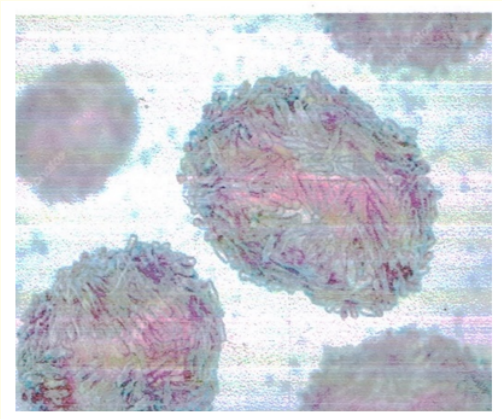

Figure 1: *Monkeypox virus (MPV) is a double-stranded DNA virus belonging to the Orthopoxvirus genus. Monkeypox virus is a zoonotic disease, meaning it can be transmitted from animals to humans.*

Monkeypox is a zoonotic virus infect primates, and humans. The infection spread from person to person contact or anhelation with an infected person's lesions [3]. These lesions may be found on the skin or mucous on surfaces such as eyes, mouth, throat, genitalia, and rectum. Symptoms developed within five to twenty days incubation period after the infection and include fever, headaches, muscle or back aches, swollen lymph nodes, and exhaustion, followed by rashes on faces that spread across the body (Figure 2).

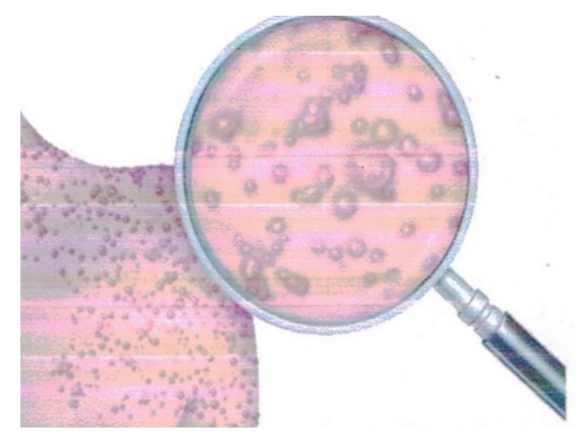

Figure 2: *Monkeypox infection causes lesions that gradually spread over the infected person's body.*

This enveloped DNA monkeypox virus (Figure 1) is similar to other viruses belong to Poxviridae family. Mechanism of infection by these viruses require first the virus envelop uncoating after the infection for DNA replications and the assembly of new generated viruses for maturation to infect neighboring cells [3]. Developed antiviral for these family is based on blocking infected virus uncoating and DNA replication. Currently there are no specific antiviral for monkeypox infection. Due to the similarity in mechanism of infection for both monkeypox and smallpox, antiviral drugs and vaccines against the infection with smallpox virus can be used against monkeypox virus infections. Recently, Centers for Disease Control and Prevention (CDC) has been approved smallpox antiviral, vaccine and immune globulins to control and treat monkeypox infection [4]. Furthermore, advanced technology in molecular biology and genomics have been used for the diagnostic of these viruses' infection and the real-time polymerase chain reaction (PCR) assays are currently used to identify the infection with monkeypox virus [5].

Conclusion

Currently the risk from the infection with monkey pox is still moderate. However, it appears that this zoonotic monkeypox virus is adaptive to be suited to the human host, and developing antiviral drugs and vaccine specific for monkeypox infection might be necessary in the near future.

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