

Golgi-to-endosome Protein Pathway, Monkeypox and Malaria: Correspondence

Golgi-endozom Proteini Patika, Maymun Hastalığı ve Sıtma: Uygunluk

✉ Rujittika Mungmunpantipantip¹, ✉ Viroj Wiwanitkit²

¹Consultant Center, Private Academic Consultant, Bangkok, Thailand

²Department of Community Medicine, Dr DY Patil Vidyapeeth, Pune, India

Cite this article as: Mungmunpantipantip R, Wiwanitki V. Golgi-to-endosome Protein Pathway, Monkeypox and Malaria: Correspondence. Türkiye Parazitol Derg 2022;46(4):360-1.

Dear Editor,

Novel zoonotic infections are a key source of concern in today's clinical medicine (1). Monkeypox has spread throughout Europe, creating a significant public health risk (2). Monkeypox is a rare pox infection that has returned, most likely as a result of zoonosis (1). Monkeypox has spread over Europe, America and Asia, creating a significant public health risk (2). Monkeypox is an uncommon type of pox that has resurfaced, most likely due to zoonosis. The possibility of human-to-human transmission is being considered. The medical community is concerned as the number of reported cases in various countries climbs, and careful preparation to correspond the possible big outbreak is required. We must move swiftly and rapidly in order to conduct a full inquiry and put essential processes in place (2).

The western section of Africa, such as Nigeria, is the traditional endemic location for monkeypox infection. Malaria is a significant local public health issue in the same region. In this area, however, there has never been a report of co-infection or a concurrent

outbreak. The authors analyse the pathophysiological pathways of both monkeypox and malaria using bioinformatic pathophysiological pathway analysis. The common path is investigated. This is the usual technique for understanding the pathophysiological process of virus infection that has been employed in prior pathophysiological pathway analysis studies (3). The Golgi-to-endosome protein route was identified as a common pathway in both illnesses based on pathway analysis. Golgi-associated retrograde protein complex genes are involved in the double-membrane wrapping of monkeypox virus required for extracellular virus production in monkeypox, implicating the host endosomal trafficking pathway in orthopoxvirus infection (4). In asexual blood stage parasites, the hypothesised Golgi-to-endosome protein sorting pathway plays a role (5). Figure 1 is a diagram that depicts a common pathway. The current findings suggest that *Plasmodium* spp. and monkeypox share a natural competitive pathophysiological pathway, which could explain why there is no overlap or co-occurrence of the two important local infectious illnesses in endemic African countries.



Received/Geliş Tarihi: 11.06.2022 Accepted/Kabul Tarihi: 28.09.2022

Address for Correspondence/Yazar Adresi: Rujittika Mungmunpantipantip, Consultant Center, Private Academic Consultant, Bangkok, Thailand

Phone/Tel: +68328328822 E-mail/E-Posta: rujittika@gmail.com ORCID ID: orcid.org/0000-0003-0078-7897

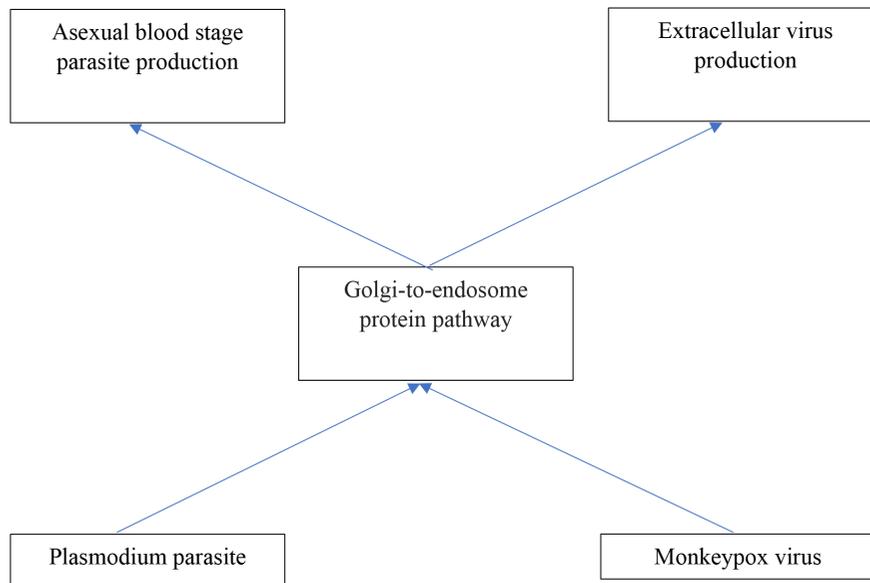


Figure 1. Common pathway analysis at Golgi-to-endosome protein pathway between malaria and monkeypox

Keywords: Golgi-to-endosome protein, pathway, monkeypox, malaria

Anahtar Kelimeler: Golgi-endozom proteini, patika, maymun hastalığı, sıtma

***Ethics**

Peer-review: Internally peer-reviewed.

*** Authorship Contributions**

Surgical and Medical Practices: R.M., V.W., Concept: R.M., V.W., Design: R.M., V.W., Data Collection or Processing: R.M., V.W., Analysis or Interpretation: R.M., V.W., Literature Search: R.M., V.W., Writing: R.M., V.W.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

REFERENCES

1. Wiwanitkit S, Wiwanitkit V. Atypical zoonotic pox: Acute merging illness that can be easily forgotten. *J Acute Dis* 2018; 7: 88-89.
2. Mungmunpantipantip V, Wiwanitkit V. Re-emerging monkeypox: an old disease to be monitored. *BMJ Rapid Response* Accessible online at: <https://www.bmj.com/content/377/bmj.o1239/rr-1> Accessed on: 21 May 2022
3. Yasri S, Wiwanitkit V. Usefulness of ginseng in management of dengue: a bioinformatics pathway interrelationship analysis. *Int J Physiol Pathophysiol Pharmacol* 2022; 14: 114-7.
4. Realegeno S, Puschnik AS, Kumar A, Goldsmith C, Burgado J, Sambhara S, et al. Monkeypox Virus Host Factor Screen Using Haploid Cells Identifies Essential Role of GARP Complex in Extracellular Virus Formation. *J Virol* 2017; 91: e00011-17.
5. Krai P, Dalal S, Klemba M. Evidence for a Golgi-to-endosome protein sorting pathway in *Plasmodium falciparum*. *PLoS One* 2014; 9: e89771.