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Viral foodborn pathogens: The current understanding and the future prospective

Maged Gomaa Hemida

King Faisal University, Saudi Arabia

Middle East Respiratory coronavirus (MERS-CoV) continue to pose greater risk to people not only in the Middle East but also worldwide. This is due to the lack of any medication or vaccine to treat or protect the infected persons respectively. It is characterized by high case fatality rates among the affected people up to 42%. Dromedary camels (DCs) remain to be the only known animal reservoir in the MERS-CoV/human interaction. However, this does not exclude the possibility of the presence of another animals in the context of a MERS-CoV transmission cycle. Furthermore, little is known about the molecular pathogenesis of MERS-CoV in DCs. Although, some recent studies reported absence of both MERS-CoV specific antibodies and nucleic acids in sera and swabs respectively from other animals such as sheep, goat, chickens, etc. More recent studies reported that Alpaca can support MERS-CoV infection and replication. Other studies reported the New Zealand rabbit is the laboratory animal of choice in studying the pathogens of MERS-CoV. Our goals are to highlight our current understanding about MERS-CoV/animal interactions, to identify the gaps in research and to point out to new hypothesis in the MERS-CoV/Human/DCs interaction. Further studies are urgently needed to enrich our understanding about the transmission of MERS-CoV from animals to human. In conclusion, animals play important roles in the sustainability of MERS-CoV in the environment. Identification of such rules will reduce the shedding of MERS-CoV to the environment, thus the risk of human infection can be mitigated.

Biography

Maged Gomaa Hemida has received his PhD from University of Guelph, 2009. He has pursued his PhD training at the the University of British Columbia (James Hogg iCapture Centre). His research area of interest is "One Health Concept" with special emphasis on emerging viruses/host interaction. Currently, studying the molecular evolution and pathogenesis of MERS-CoV in the Middle East. He has published more than 40 original Research papers on high impacted journals. Meanwhile, he has received several Research Grants, Prestigious Honors and Scholarship throughout his academic carrier. Currently, he is a reviewer of many granting agencies as well as Editorial Board Member of many international journals.

gomaa55@gmail.com

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