# Molecular Microbiology as Important Epidemiological Approach for New Emerging Infection

#### Viroj Wiwaniktit\*

Hainan Medical University, Haikou Shi, Hainan Sheng, China

\*Corresponding author: Viroj Wiwaniktit, Visiting Professor, Hainan Medical University, Longhua Qu, Haikou Shi, Hainan Sheng, China 571100, Tel: +6624132436; E-mail: wviroj@yahoo.com

Received date: 11 September 2017; Accepted date: 14 September 2017; Published date: 20 September 2017

**Copyright:** © 2017 Wiwanikti V. This is an open-access article distributed under the terms of the creative Commons attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

**Citation:** Wiwanikti V (2017) Molecular Microbiology as Important Epidemiological Approach for New Emerging Infection. J Mol Microbiol. Vol. 1 No. 1: 1.

#### **Editorial**

The advanced microbiology becomes very useful in medicine at present. The hi-tech approach can help identify the molecular component as well as structure of host and pathogen regarding an infection and it can be very important data for understanding the pathophysiology of the infectious disease. At present, the in depth molecular analysis is the tool for confirmation of the infection and becomes the standard approach in several medical centers. The molecular biology laboratory testing becomes widely used in clinical practice and helpful in diagnosis and follow - up of the patients. In addition, the data from the basic laboratory test can be further manipulated using the technology of biochemoinformatics [1]. This is the next step advanced biomedical science. With bioinformatics, the clarification of the pathogen and host mechanism on an infection is possible. In addition, prediction of the biological and pathophysiological process is possible. Hence, it is no doubt that the molecular microbiology technique becomes the present useful tool and used worldwide.

In epidemiology, the application of the molecular microbiology technique can also be seen. It can be an effective novel epidemiological tool. With use of the molecular technique, the surveillance of disease can be more effective. It can also be applied for the situation of the new emerging infection [2]. In the present day, there are many new emerging infections such as Zika virus disease. The molecular microbiology tool can help clarify the pathogen. With the advance laboratory, the genetic data of the new pathogen can be revealed and further manipulated. The comparison of the new pathogen data to the old well-known data can be done and this can be the way to tell the relationship and origin of the new pathogen. This is known as the phylogenetic approach. For example, the new Zika virus was successfully studied by mean of molecular microbiology and the further analysis showed the relationship of the pathogen seen in distanced settings around the world [3]. In addition, the clarification of the basic genetic and protein data by molecular

technique is the first step for further drug and vaccine searching and development.

It is no doubt that when there is a new emerging disease, the first thing is to identify the pathogen and the in depth analysis by the molecular microbiology technique is required. This is the basic concept for application in epidemiology regarding the outbreak of new diseases at present. When there are available data, the use of advance computational technique can further help manipulate the data. Comparison and prediction can be done. In addition, with the advent IT technology, sharing of the data among practitioner becomes easier than before and this is the way for collaboration. In addition, the use of the GIS technology can be applied to the derived data and this can support the recognition of the time and place dimensional of any new emerging infection. As a conclusion, it is no doubt that the molecular microbiology plays important role in management of new disease at present. It can also be the basic requirement for further integrative approach for management of the new emerging disease. The practitioner should recognize and learn on in new influx of technology and there should be a way to empowerment the team to work happily with the new molecular microbiology technology.

## **Conflict of Interest**

None.

### References

- Wiwanitkit V (2013) Utilization of multiple "omics" studies in microbial pathogeny for microbiology insights. Asian Pac J Trop Biomed 3: 330-333.
- 2. Wiwanitkit S, Wiwanitkit V (2016) Computational intelligence in tropical medicine. Asian Pac J Trop Biomed 6: 350-352.
- Wiwanitkit S, Wiwanitkit V (2016) Zika virus infection in Asia: Reappraisal on phylogenetic data of Asian lineage. Asian Pac J Trop Med 9: 614-615.