

June 21-22, 2018
Paris, FranceBarry T. Rouse, Arch Clin Microbiol 2018 Volume: 9
DOI: 10.4172/1989-8436-C3-010

IMMUNITY OR TISSUE DAMAGE TO VIRUS INFECTIONS-WHAT DECIDES THE OUTCOME?

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We are exposed to a very large number of different exogenous viruses. In addition, many viruses persistently infect us, or even form part of our genome. We may make up to 1012 new viruses daily! Few viruses have the ability to cause overt disease and when this happens usually the infection is unapparent in the majority of those infected. The presentation will briefly mention how viruses can cause disease then go to discuss the circumstances that help decide if infection results in evident tissue damage or if the infection is eliminated without apparent consequences by the immune system. Included among the circumstances to be discussed will be infection by agents from other species, dose and route of infection, age and health status of the infected animal, past exposure history to homologous or heterologous agent, nature of the resident microbiome and some other effects. The second part of the talk will focus on human antiviral vaccines commenting on why we are successful with some, what could be done to improve some vaccines and why we have been remarkably unsuccessful (perhaps permanently so) with others.

Keywords: Virus, immunity, immunopathology, vaccines, inflammation

Biography

Barry T. Rouse graduated with a veterinary degree from Bristol, England in 1965. After a brief stint as a practitioner, he undertook graduate studies in Canada obtaining MSc and PhD degrees. He then had a two year postdoctoral experience at the Walter and Eliza Hall Institute of medical research, Melbourne Australia, prior to returning to Canada as an Assistant professor where he established his independent laboratory. In 1977 he moved to Tennessee where he is currently the Lindsay Young Distinguished Professor. Doctor Rouse considers himself a viral immunologist and has written >400 articles with citations of >22000 and a H index of 81. He has trained almost 80 trainees and stays in touch with the majority of them. Thanks to his trainees he has won numerous awards for his research accomplishments.

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