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More Newly Characterized Viruses in Coming Days

Mohammed Mujahid[1,2*] and Farah Ghani[1]

[1]Department of Biochemistry, Aurora Post Graduate College, Chikkadpally, Hyderabad, India
[2]Department of Animal Science, Hyderabad Central University, Gachibowli, Hyderabad, India

Review Article

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***For Correspondence**

Mohammed Mujahid, Department of Animal Science, Hyderabad Central University, Gachibowli, Hyderabad, Andhra Pradesh, India, Tel: 919533310779

E-mail: mujahid.1569@gmail.com

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ABSTRACT

It has been more than a century since the famous Dutch microbiologist Beijerinck submitted his paper on the cause of tobacco mosaic which leads to discovery of virus and the concept of Virology. There are about 219 virus species that infect humans and more 200 plant viruses and animal virus and This paper marked to understand beginning of a far-reaching change for to understand the pathogenicity of a newly emerge virus and led to eventually in understand the genetic nature of the virus of an every newly emerge viruses. Still there is a question mark for every scientist or newly emerge naïve researcher that we have been failing to understand the genetic nature of virus. It has seen that nearly about 15-20 viruses are emerging now and then. In view of the presumed that obligative parasite they call viruses as the greatest caution must be exerted in attributing to anyone virus a property observed in this consider each virus as a completely distinct entity, un-related to any others.

INTRODUCTION

Although we know much about viruses, it is an instructive and the well interesting matter to consider how this knowledge came about [1-3]. It was only just above 100 years ago at the end of the 19th century that the germ theory of disease was formulated and pathologists were then confident that a microorganism which acts as causative it would be found for each infectious disease that the organism is infected for it may be plants or animals [4-8]. Viruses are microscopic, obligate parasites which may be inter or intra cellular parasites. Viruses are too small to be seen only through microscope and they are not self-replicates in which they have no choice but to replicate with in the host cells that means said to be host depended [4,9-12]. The simple but useful definition goes a long way toward for describing viruses and differentiating them from all other types of organisms. It is not a problem to differentiate virus from such as plants and animals.

Although the history of virology recounted that a more familiar question and receive very less attention to it. How generations of virologist and microbiologist has arrived to an idea that some of them dealt to fell into the category that they are differed from the fundamental studies on virology [8,9,13-15].

In other words, how we categorized the word of “virus” as we now know it? Aristotle proposed that this are objects in the world which can be categorized into what we now call natural kinds, objects that held some sorts of “pure” or “real” relation to each other based on their primary (necessary and sufficient) qualities as opposed to secondary qualities [2,5,16-20].

Viruses were considered as natural objects, but our beliefs make us to understand, and conceptions of them change over time to time on the basis of new information which formulated now and then. In a very real way to understand a virus is what virologists say it is most intelligent creature [4,9,21]. It is a product of the way person who talks about only viruses he said to be virologists that is, the way facts about viruses are organized in their discourse. It can be said that virologists invent the concept of a virus as part of the normal progress of their science.

Some Historical Highlights

The Intense efforts have been devoted for its identity and functional character of its nature of viral structure and its pathogenesis as well its products expressed in any kind of infected cell. In the late eighteenth century virological the term that have been used for many years previously to describing the agents, called the word "virus" which is derived from the Latin word called "Slimy fluid [22-28].

A significant outbreak of several viral epidemics which have involve more than a few research works has been started mid 18th century with the discovery of the tobacco mosaic by Beijerinck found a sap form of bacterial toxins which remains as virulent even after the filtration could be transferred successively to the number of plants. Since then the most important study to work to understand the virulent structure and pathogenesis [15,21,29,30].

The Word Virus

The Twenty first century definition for the virus "Vital Immune System under Set Upon" good definition matches with the viruses because it's under siege the vital immune of any organism. According during the nineteenth century most of the virus has been synonym as poison and Pasteur's word for an infectious agent which causes infection. The refinement of the virus concept like a story of technologies and methods more than a story of as many shifts, eureka moments and many discoveries [31-39]. The basic idea that virus's material basis for transmission of diseases has changed words of definition in the past 50 years; what has changed is our understanding the essential properties and biological capacities of virus [40-45].

The rate of discovery of these sub viral plant pathogens was low over the past 40 years because the classical approaches are technically demanding and time-consuming"-circumstances, which may have discouraged experimentation in efforts to discover animal viroids. There still exist other forces, however, which may have drastically limited the extent of experimentation with sub viral agents by animal- and, above all, by medically- and biochemically-oriented investigators [30,38-41,46-51].

For example, many investigators adhere to an excessive anthropocentric bias, which automatically downgrades the significance of results obtained with plants, in disregard of the fact that many important biological discoveries have first been achieved with plants or plant tissues. Suffice it to mention here Gregor Mendel's fundamental laws of genetics and the discovery of the first virus, tobacco mosaic virus, as well as determination of its molecular constitution-all of which were first achieved with plants or plant systems [26,36,41,52-59]. It was thus useful for to remind investigators that viroids are, aside from their pathogenic properties, most useful systems to study basic principles of RNA biology.

A remarkable success like a Hollywood movie villain of the immune of system "Infectious Diseases Movie" of the virus act as villainous role killing the T3 and T4 cell leading to under siege of the immune system [60]. In 1917, suddenly mindset of research, shift with a discovery of microbial identifier called Ultra microbes or highly advanced filterable agents at the time which helps in the identifying the filterable virus like bacteriophages in which virus attacks the bacteria themselves considered different from the highly specialized organism such as plants and animals and the way of discovery of bacteriophages and its technology developed and lead a new addition of the virus identity [61-66].

Yes of course is not very surprisingly which led to a rise of enthusiasm in the research work; until about the 1920s, microbes-bacteria in particular-were suggested on the basis for pathologies, including its infection and even pathologies. Most influences scientific advances happened after a decade of World War II was the establishment of NSF in 1950s [49,53,54,59,67-70].

In conclusion, there seem to have been exceedingly few efforts to find viroids in animals-whether or not associated with diseases. Although, at first glance, the low level of experimentation in efforts to discover animal viroids may seem surprising, but is understandable in view of the fact that the very concept of sub viral agents has only recently been accepted by most animal and medical investigators.

Techniques: The Focus of the First Decade

In 1890s, application and usage of filtration to study virus and related protein particle has provided a new way to think about these microbial creatures. The work is widely recounted in the history of virology and may not be elaborated upon except to note in landmark reports. The important studies put forward by Loeffler & Frosch who studied foot mouth disease and Ivanowski and Beijerinck who studied the TMV virus which gives the virus unique distinction from another microbial creature [71-73].

List of technology 1890s (Filtration) [13] Complement fixation [44] Tissue culture (1970s) [65] Monoclonal antibodies [15] polymerase chain reaction (PCR) 2000s high throughput sequencing [44].

Early Period: From Dark Research to Second World War

Pioneer discovery

Viruses began to reach the epidemic stages when human behaviour changed during around 12,000 years ago during the Neolithic period, when humans populated in the agricultural communities which are susceptible to viruses and devastating consequences in the agricultural production. Humans became over-reliant on agriculture and farming, diseases such as virus diseases of potatoes and rinderpest of cattle had devastating consequences. Hence measles and small pox firstly identified and free from the list of human disease because due to identification of vaccine by Louis Pasteur and Edward Jenner [60,65,68,73-76].

In 1882, TMV has identified which causes described a condition of tobacco plants, called as "mosaic disease" and in 1896, Hankin report something in the holy river of the Ganges and Yamuna in India had marked antibacterial action against cholera and could pass through a very fine porcelain filter and then followed by In 1915, British bacteriologist Frederic from Brown Institution of London, discovered a small agent that infected and killed bacteria later on which is called as Bacteriophage [44,55,77-79]. But know its consider as Molecular Transporter for the gene therapy tool in the advanced molecular which act a carrier several genes or cell which helps in correction.

In 1918 Pandemic of Flu was one of the unusually deadly influenza pandemic, the two pandemics involving the H1N1 influenza virus. It infected 500 million people across the world including remote areas like Pacific islands and the Arctic, and resulted in the deaths of 50 to 100 million which estimates 3 to 5 percent population of the globe making as one of the deadliest natural disasters disease in human history [80-84].

The Intermediate Period: 1939–1962

But this early research was interrupted between the World War II, in the decade between 1940-1950 nothing major important active study happen to see in the virus research, but late decade of 1950-60, Hershey and Chase made important discovered the replication of DNA of bacteriophage T2 phage and awarded the Nobel Prize in the year 1969 “for their discoveries mechanism of replication and its genetic structure of such viruses" [1,6,9,44,85-88].

Modern Stage: 1964- till now

Even though “viruses are viruses,” each generation of scientists looks in to a new at a fascinating creature on its own way, endowing them with properties, relationships, and capacities that reflect as the time changes. Truly, they are microbes being continually reinvented by their most ardent admirers. Likewise in the year 1980s worlds deadly virus has been discovered called AIDS [89], 2000s SARS [90], 2010 HINI virus [91], 2016 Zika virus [92] at its epidemic stages spread all countries around the globe.

Several reviews have been written on modern viruses in which they have describe as ‘drivers ‘of the emerging of viruses or other pathogens. They constitute a set of environmental and biological factors, many of which—such as urbanization of land use it seems to be intuitively reasonable but are too broad to relate to mechanistic causes of emergence. The list of new emerging human virus species that are reported from 2005 to 2016 : Human bocavirus (Parvoviridae), parvovirus 4 (Parvoviridae), KI polyomavirus (Polyomaviridae), Melaka virus (Reoviridae), WU polyomavirus (Polyomaviridae), astrovirus MLB1 (Astroviridae), Bundibugyo ebolavirus (Filoviridae), human bocavirus 2 (Parvoviridae), human cosaviruses A-D (Picornaviridae), human cosavirus E1 (Picornaviridae), astrovirus VA1 (Astroviridae), human papilloma virus 116 (Papillomaviridae), klassevirus (Picornaviridae) and Lujo virus (Arenaviridae), Ebola virus and zika virus [38,42,65,68,93-96].

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CONCLUSION

While my survey did not disclose conclusive evidence of an existing animal sub viral agent, the few negative reports listed do not permit drawing the conclusion that such agents are absent in animals. Only much further experimentation could provide definite evidence one way or other [97-99]. Such evidence would be much easier to obtain than was the case during the last 40 years, for example, by use of novel methods which can analyze multiple sample simultaneously. Nearly about 216 human viruses has been identified and more to come in future generation, some say in coming days would be more viruses than the human race counts [100]. A better understanding of the emergence of new human viruses as a biological and ecological process which will allow us to refine our currently very crude notion of pathogens of all kinds.

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