

Preface

Influenza viruses are highly contagious, causing respiratory symptoms in humans, animals, and birds. The flu viruses keep evolving in animals and poultry and ultimately jump species to cause epidemics and even pandemics in humans. The disease is highly contagious, zoonotic, and affects various systems of the body with the potential to cross international borders. During the past 150 years, various strains of influenza virus like Spanish flu, Asian flu, Hong Kong flu, Bird flu, and Swine flu were responsible for high morbidity and mortality in both human and animals. Being an RNA virus, it has high mutation rates. The antigenic shift and antigenic drift play an important role in the evolution of influenza viruses. These phenomena along with development of antiviral drug resistance contribute to ineffective chemotherapy and vaccines against influenza viruses. Influenza is clinically characterized by sudden onset and rapid spread of respiratory tract problems along with chills, fever, sore throat, myalgia, malaise, headache, depression, anorexia, sneezing, coughing, serous nasal discharge, weakness, fatigue, labored breathing, general discomfort, etc. The influenza A virus, due to its devastating nature, high zoonotic implications, and huge toll in terms of human and animal deaths, severe impact on socioeconomic status of countries, has caught the eye of world policymakers. The viral pathogenicity and available susceptible population makes it difficult to forecast the next pandemic influenza virus. Therefore, the pandemic preparedness for influenza may help in reduction of virus transmission and thus reduce the clinical cases and deaths. This book, compiled by expert scientists, is enriched with the latest information and will be a useful element in providing salient information on all aspects of influenza/flu viruses affecting animals, birds, and humans and specifically reviews the properties and replication of influenza viruses, their evolution, and emergence; epidemiology; role of migratory birds in disease transmission; clinical signs in humans, animals and poultry; pathogenesis and pathogenicity; public health importance and potential threats, diagnosis; prevention and control measures, and pandemic preparedness. Being a comprehensive and need-based book it will be a helpful reference book and will serve as a useful resource for

researchers, scientists, academicians, animal/poultry workers, medical/healthcare professionals, veterinarians, and students/scholars, and thus serve as an indispensable source of knowledge and help to all the stakeholders.

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