

What Can We Think about from the Outbreak of Ebola Hemorrhagic Fever?

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Ebola hemorrhagic fever (EHF) is an acute hemorrhagic infectious disease caused by Ebola virus (EBOV), which was first discovered in Africa in 1970s with a high infection and mortality rates up to 50-90%. Since its outbreak in Zaire (now called Democratic Republic of Congo), the central part of Africa, in 1976, it has become endemic in Central Africa including Uganda, Congo, Gabon, Sudan, Côte d'Ivoire, Liberia, South Africa and other countries. People have been infected mainly through contacting with the body fluids, excrement and secretions of patients or infected animals. The main clinical manifestations are fever, bleeding and multiple organs damage.

Currently, there is no effective antiviral drug and vaccine worldwide to cure EHF, and the prevention of this disease is also extremely difficult. There were many times that various infectious diseases were epidemic in human history, resulting in the death of a large number of people and the huge damage to the progress of human civilization. For example, the plague epidemic in medieval Europe led to 30% of the total human deaths in Europe. Smallpox, a strong contagious disease caused by airborne virus, used to result in a total of over one hundred and fifty million deaths from the emperor down to the pawns. In addition, anthrax, cholera, malaria and so on are also dreaded infectious diseases which have deprived millions of people's life.

Furthermore, some new infectious diseases which have never been heard before outbreak, such as avian flu, swine flu, EHF and other epidemic diseases will bring more serious challenge to human being. Although we have reached the highest level of medical standards in human history, we still feel unprepared and helpless when these diseases drop by suddenly.

Nevertheless, nothing is invincible. With the development of medicine, we finally defeated the plague and completely eliminated smallpox. However, experience accumulated during the fighting with these disease will greatly benefit the management of others. In the spring of 2003, Chinese people were attacked by an unexpected Severe Acute Respiratory Syndromes (SARS), and a lot of persons including

medical care-givers were sacrificed in this outbreak. Fortunately, this disaster was conquered as a result of the indefatigable effort of Chinese people and the worldwide cooperation. From this event, the Chinese people began to think about where this disease originates and how to deal with the outbreak of such infectious disease. Many of the acute infectious diseases are related to animals, for example, SARS is related to civet cats, and Ebola to bats. These animals are the natural hosts of the pathogenic viruses; so, close contact with these animals may be the direct cause of these diseases. This close inter-contact may be due to the change of environment including the greenhouse effect, the reduction of animal habitat, as well as the human lifestyle and dietary spectrum. Frankly speaking, the acceleration of urbanization resulted by economic development led to further compression of the animals living space, making the living space of human being and animals overlapped inevitably and also increasing the risk of acute infectious diseases.

Based on the experience obtained from fighting with these infectious diseases, the following issues should be considered as to how to prevent the next outbreak of serious infectious diseases. First of all, the sustainable development and harmonious coexistence of human being and nature should be the best choice to avoid the punishment of the nature through acute infectious diseases. Secondly, in case of the outbreak of these infectious diseases, seeking immediate medical attention is essential for improving the survival rate of the patients. The best way to reduce incidence and mortality is to increase awareness of risk factors and take effective protective measures. Thirdly, regulatory authorities such as WHO and the government health authorities should bear the relevant responsibilities, for example, to regulate resources globally to carry out disease surveillance, develop effective antiviral drugs or vaccines, share information between regions, and monitor outbreak dynamics. In addition, multilateral cooperation is also important to control these diseases, such as the cooperation between the doctors and patients, the government and masses, and the modern medicine and traditional medicine.

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