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Editorial

The Nipah Virus Outbreak – A Reminder

P A Tambyah

The outbreak of Nipah virus infection in Malaysia and Singapore is a timely reminder that despite the rapid technological advances of the late 20th Century, we still live in the “Hot Zone” for new and emerging infectious diseases⁽¹⁾.

In this issue of the journal, Lim et al⁽²⁾ provide one of the first reports of a new paramyxovirus never previously known to cause disease in humans or animals. This virus, which was identified by tissue culture isolation at the University of Malaya in Kuala Lumpur, shares many characteristics with the Hendra virus which emerged in Australia barely five years ago and caused disease in horses and humans. However, the new virus, for which the name “Nipah” has been proposed, differs from the Hendra virus in terms of the vertebrate hosts (predominantly pigs), the disease manifestations (pulmonary infiltrates appear to be important) and radiological findings as illustrated in this report.

The illness is characterised by 3 – 14 days of fever with headaches and often respiratory symptoms, followed by drowsiness, disorientation and rapid progression into coma. The case fatality rate of Nipah virus encephalitis approaches 50%⁽³⁾.

New epidemiologic information about this infection is being released daily. Two stray dogs have reportedly been tested positive for antibodies to the virus while the first batch of serum from healthcare workers who took care of the first few patients was reportedly negative. No one has been infected by simply eating pork and all of the reported cases are pig farmers, handlers or abattoir workers. The details about the epidemiology, pathogenesis, clinical features, treatment and long term morbidity and mortality will continue to unfold in the months to come as many more papers are written.

What we do know for certain is that this is not the first emerging zoonotic infection in Singapore or Malaysia⁽⁴⁾, nor is it going to be the last. While the precise reasons for the paramyxoviruses Hendra and Nipah to cross species and cause disease are not known, modern travel, migration and the globalisation of the food industry and the animal trade make the emergence of new infectious agents almost inevitable. More than a quarter of the people in Singapore at any one time are foreigners, and an equal number of Singaporeans travel abroad to increasingly exotic destinations. Almost all of our food is imported and the government is trying yet again to persuade Singaporeans to switch to frozen or “chilled” meats which carry a much lower risk of bacterial or viral contamination.

Perhaps the most important emerging zoonotic infectious disease of all is pandemic influenza. Since the 1918 influenza pandemic which killed 20 – 30 million people and ended the First World War, there have been pandemics in 1957 and 1968, both originating in East Asia. In 1997, the emergence of avian influenza in Hong Kong raised the specter of another global pandemic which we are only just beginning to appreciate⁽⁵⁾. If the Hong Kong authorities had not alerted international experts in May 1997 following a single case of a boy who died from avian influenza, allowing them to characterise the virus and develop reagents for detection, the response to the winter outbreak would have been much slower with possibly lethal consequences for the world.

What is also clear is that the first few cases of a new emerging infectious disease are not going to present to a tertiary care center like the Communicable Disease Center (CDC), National University Hospital (NUH) or Singapore General Hospital (SGH). They are much more likely to show up at the neighbourhood GP clinic with some unusual syndrome. The Infectious Diseases Society of America has established the Emerging Infections Network as a sentinel system to monitor new and reemerging infectious diseases⁽⁶⁾. There are resources available in Singapore at the major teaching hospitals and the Ministries of Health and the Environment to monitor and help manage new and emerging infectious disease syndromes. However, these are all dependent on the vigilance of the “doctor on the street” or more appropriately, “the doctor downstairs”.

All of us can play a part to ensure that the next “Outbreak” is detected rapidly and managed appropriately.

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Cover picture:

A painting by Dr Winston Oh depicting one of the most attractive “villages” in Singapore – Holland Village.