

EDITORIAL

## The Silent Expansion of Rabies in Borneo

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Among dengue, malaria, leptospirosis, cholera and tuberculosis, we often forget about rabies. Globally, an estimated 60,000 people die of rabies annually, and more than half of these deaths occur in Asia<sup>1</sup>. Among all infectious diseases, rabies is most fatal where the mortality rate of human rabies is 100%. On the other hand, rabies is 100% preventable if vaccine is administered timely. Rabies has been known to occur in Peninsular Malaysia since 1884, and since 1924 human rabies cases have been recorded. Most of these cases occurred in states bordering Thailand, which is highly endemic for rabies<sup>2</sup>. The incidence rose markedly in late 1945 with the reoccupation by Allied Forces, many of whom had come from India had brought their dogs with them<sup>3</sup>. A major outbreak of rabies occurred in Province Wellesley and Perak in 1945, and subsequently in Selangor in 1952<sup>3</sup>. The total human death from rabies in Malaya from 1946 to 1952 was only 25<sup>3</sup>. Outbreak was controlled by compulsory mass vaccination of dogs, stringent legislation, intensive stray-dog destruction, and mass education. These prompted a National Rabies Control Programme of compulsory vaccination of all dogs and a rigorous programme of destruction of stray dogs<sup>3</sup>. However, small outbreaks and sporadic cases of animal and human rabies continued to occur in the northern states of Perlis, Kedah and Kelantan and also in Selangor<sup>2</sup>. With continuous efforts, Malaysia was declared rabies free in 2013. However, rabies outbreak occurred in July 2015 in three states – Perlis, Kedah and Penang. After

several years this was a new challenge for the authorities and was resolved by November 2015 after extensive vaccination and culling of dogs and awareness campaign<sup>4</sup>. The outbreak in Perlis and Kedah were hypothesized to have originated from neighbouring Thailand by land movement, but the outbreak in Pulau Penang was hypothesized to have originated by sea through fishermen boat<sup>4</sup>. It is noticeable that the first rabies outbreak in Terengganu in 1996 was also by dogs from Thailand brought by fishermen boat<sup>4</sup>.

When we look at the rabies situation of Malaysian Borneo, it was different. Traditionally Borneo was free from rabies. The first human rabies case recorded in Borneo was in Kalimantan (Indonesia) in 1906<sup>5</sup>. Since then Kalimantan has been endemic for rabies, however, there were no reported rabies cases in Sarawak and Sabah. In June 2017, a rabies outbreak was declared in Sarawak, the outbreak has claimed 16 lives so far. Except Limbang district, all areas of Sarawak have been affected<sup>6</sup>. Up to January 2019, rabies has been confirmed not only in 42 dogs but also in 7 cats<sup>6</sup>. Spillover of rabies to cats is an alarming situation because unlike dogs, cats often lick their paws, therefore even scratch by a rabid cat may transmit the virus.

There are an estimated 225,000 dogs in Sarawak and at least 70% of the dogs should be vaccinated to make rabies in Sarawak under control<sup>7</sup>. As of January 2019, a total of 106,498 dogs, 8,541 cats and 57 other animals have been vaccinated in Sarawak<sup>6</sup>. As a neighbour of Sarawak, we are carefully observing rabies situation there. By excellent efforts of various government agencies Sabah still remains free of rabies. The Department of Veterinary Services, Sabah has been doing awareness programme for rabies in Sabah, and has vaccinated the dogs inside 30 km of Sabah along the border

with Kalimantan and Sarawak<sup>8</sup>. Moreover, import of any dogs or other pets from Sarawak and Kalimantan has been strictly prohibited. In the Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, we are able to perform molecular detection of rabies virus and to determine the source if rabies outbreak occurs in the state. However, we have to think about prevention first, the time is ripe to start campaign for responsible behaviour towards stray dogs.

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