

# Communicable Diseases

## WATCH



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### FEATURE IN FOCUS

## Vaccination Practice for Health Care Workers in Hong Kong

Reported by Dr CHAN Hong-lam, Medical and Health Officer, Vaccine Preventable Disease Office, Surveillance and Epidemiology Branch, CHP.

Vaccination is one of the most effective tools to prevent infectious diseases. Health care workers (HCW) are at risk for exposure to infectious diseases. HCW who work with patients or handle infectious material could not only get infected, but also spread infections to susceptible patients. For example, nosocomial transmission has constituted an important part of large measles outbreaks in some European countries this year<sup>1,2</sup>. While the practices on vaccination of infectious diseases for HCW for overseas countries vary, besides for seasonal influenza, vaccination against hepatitis B, measles, rubella and chickenpox among HCW were generally recommended.

In June 2017, Scientific Committee on Vaccine Preventable Diseases (SCVPD) discussed on vaccination practice for HCW in Hong Kong. In this context, HCW refers to personnel (including students and volunteers in health care disciplines) involving potential contact with patients, their blood or body substances in health care settings, and hence at potential risk of acquiring and transmitting infections in such settings.

SCVPD has made the following recommendations:

- HCW should be immune to hepatitis B and their post-vaccination serological status should be ascertained;
- HCW should be immune to measles and rubella, by either vaccination or medical evaluation;
- HCW should be immune to varicella. HCW with negative or uncertain history of receiving two doses of varicella vaccines or disease of varicella or herpes zoster should be serologically tested. Vaccines should be offered to those without varicella zoster antibody; and
- All HCW should receive seasonal influenza vaccination annually once the vaccine is available.

SCVPD also recommended that immune status of individual HCW should be assessed at the time of initial employment. A full vaccination history should be obtained and with documentation. The records of vaccination and serological tests of each HCW should be kept by both employer and employee.

Local health care organisations, in both public and private sectors, should assess staff's risk of acquiring and transmitting infections and review their vaccination practice. For details of SCVPD's *Summary Statement on Vaccination Practice for Health Care Workers in Hong Kong*, please visit CHP website:

[http://www.chp.gov.hk/files/pdf/summary\\_statement\\_on\\_vaccination\\_practice\\_for\\_health\\_care\\_workers\\_in\\_hong\\_kong\\_september\\_2017.pdf](http://www.chp.gov.hk/files/pdf/summary_statement_on_vaccination_practice_for_health_care_workers_in_hong_kong_september_2017.pdf)

### References

<sup>1</sup>Porretta Andrea, Quattrone Filippo, Aquino Francesco, Pieve Giulio, Bruni Beatrice, Gemignani Giulia, Vatteroni Maria Linda, Pistello Mauro, Privitera Gaetano Pierpaolo, Lopalco Pier Luigi. A nosocomial measles outbreak in Italy, February-April 2017. *Euro Surveill.* 2017;22(33):pii=30597. Available at <https://doi.org/10.2807/1560-7917.ES.2017.22.33.30597>.

<sup>2</sup>Kurchatova Anna, Krumova Stefka, Vladimirova Nadezhda, Nikolaeva-Glomb Lubomira, Stoyanova Asya, Kantardjiev Todor, Gatcheva Nina. Preliminary findings indicate nosocomial transmission and Roma population as most affected group in ongoing measles B3 genotype outbreak in Bulgaria, March to August 2017. *Euro Surveill.* 2017;22(36):pii=30611. Available at <https://doi.org/10.2807/1560-7917.ES.2017.22.36.30611>.

## Update on rabies in Hong Kong

Reported by Dr Eric LAM, Medical and Health Officer, Communicable Disease Surveillance and Intelligence Office, Surveillance and Epidemiology Branch, CHP.

### Background

Rabies is a zoonotic disease with acute infection of the central nervous system caused by rabies virus. It almost invariably causes fatal encephalitis in humans. Dogs are the main reservoir of rabies virus, although all species of mammals, including cats, foxes, bats etc. are also susceptible to rabies virus infection<sup>1</sup>.

After one gets bitten, scratched or has the broken skin licked over by an infected animal, the virus in the animal's saliva enters from the wound and travels through the peripheral nervous system to the central nervous system, resulting in more serious clinical sequelae. Rarely, rabies may also be transmitted by inhalation of virus-containing aerosol or via transplantation of an infected organ.

Depending on the viral load and site of entry, the incubation period on average is about one to three months, but may vary from less than one week to over one year.

The early presenting symptoms could be non-specific, there could be fever, headache and malaise, with some prickling or itching sensation around the site of wound. With the progress of disease, within days the person may experience anxiety, confusion and agitation, followed by development of abnormal behaviour, delirium, hydrophobia, muscle spasm and coma. Once the clinical signs of rabies appear, the disease is almost always fatal. According to the World Health Organization (WHO), approximately 59 000 people die from rabies every year. While the disease is likely to be underreported in many developing countries due to suboptimal surveillance system and political neglect, it is estimated that nowadays the disease is mostly reported in Asia and Africa, with the highest incidence and deaths reported in India<sup>2</sup>. China has the second highest number of reported rabies cases in the world, with most of the cases currently reported in the southeastern part of the country<sup>3</sup>. With the awareness and strong commitment in the Chinese government to controlling rabies, since reaching the peak in 2007, the incidence of rabies steadily declined to fewer than 1 000 cases in 2016<sup>4</sup>. In fact, many other countries where rabies is of concern, as well as key international organisations including WHO, also recognise rabies as a priority communicable disease with significant impact on people's health and their country's economy. On September 28, 2017, World Rabies Day, WHO and the World Organization for Animal Health (OIE) etc. announced their plan to end human deaths from dog-transmitted rabies by 2030. Among others, one of the aims is to prevent dog-transmitted rabies by improving awareness and education, expanding dog vaccinations, and improving access to healthcare for populations at risk<sup>5</sup>.

### Local situation

In Hong Kong human rabies is notifiable under the Prevention and Control of Disease Ordinance (Chapter 599). All registered medical practitioners are required to notify the Centre for Health Protection (CHP) of the Department of Health all suspected or confirmed cases of human rabies. Ever since the last local case of human rabies was reported back in 1981, eight imported cases have been recorded (Figure 1). The latest imported case was notified to CHP in December 2014. The patient was a 28-year-old man who worked in Indonesia and sustained dog bite at his workplace in Indonesia in July 2014. He returned to Hong Kong to seek medical management on presentation of neurological symptoms in December 2014, but finally succumbed about three weeks after admission to hospital. All the other previously reported cases were also fatal.

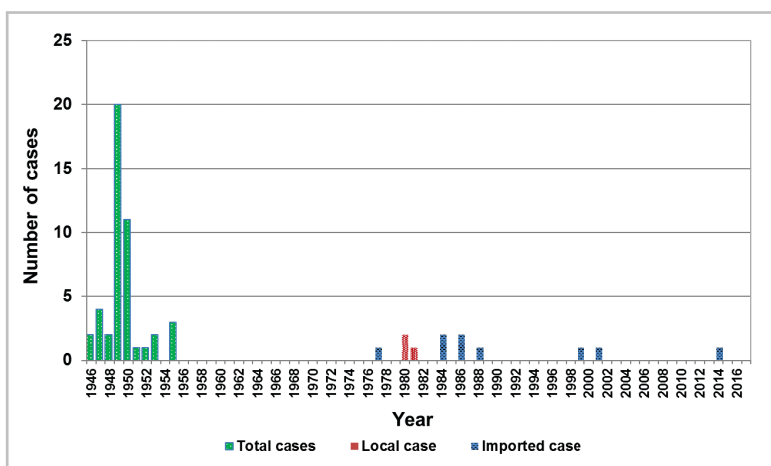


Figure 1 - Number of human rabies cases in Hong Kong, 1946-2017.

Despite a high case fatality, rabies can be effectively prevented through vaccination and proper wound management. Wound cleansing with plain water and soap should be done immediately after sustaining animal bite. Medical attention should be sought as soon as possible at the nearest Accident and Emergency Department. Depending on various factors such as wound condition and degree of suspicion on rabies infection in the biting animal, rabies vaccine and immunoglobulin may be indicated<sup>6</sup>. Pre-exposure prophylaxis, through immunisation, is recommended for people going on prolonged trip to rabies-endemic areas which involve visiting remote rural regions with no medical facilities, or people who will travel for a short period in rabies affected areas, but high-risk activities such as hiking, trekking or animal handling are anticipated.

Hong Kong has been free of animal rabies since 1988. To prevent the disease occurring in animals in Hong Kong, a number of measures which focus on dogs and cats, have been put in place. These include importation control for animals and animal products and prevention of animal smuggling; dogs must be licensed, microchipped, vaccinated against rabies and properly under control in public places; quarantine of biter animals; rabies surveillance on any animals that die or display clinical signs consistent with rabies within the seven day observation period; taking enforcement action against owners who abandoned their animals and stray animal management with the aim to minimise the number of susceptible stray animals at large. According to a Thematic Household Survey on Keeping of Dogs and Cats commissioned by the Census and Statistics Department, it was estimated that in the pet owning population, 85.7% of dogs had been vaccinated against rabies, microchipped and licensed.

To prevent rabies, members of the public should:

- ◆ Avoid stray animals such as dogs, cats, monkeys etc.;
- ◆ After being bitten by animal, wash wound thoroughly with plain water and soap immediately; and
- ◆ Seek medical attention at the nearest Accident and Emergency Department.

### References

<sup>1</sup>Rabies, Transmission, US Centers for Disease Control and Prevention. Available at <https://www.cdc.gov/rabies/transmission/index.html>.

<sup>2</sup>Rabies, Epidemiology and burden of disease, World Health Organization. Available at <http://www.who.int/rabies/epidemiology/en/>.

<sup>3</sup>Rabies Fact Sheet, World Health Organization Representative Office, China.

Available at <http://www.wpro.who.int/china/mediacentre/factsheets/rabies/en/>.

<sup>4</sup>Overview of notifiable infectious diseases in China, 2016.

Available in Chinese at <http://www.nhfpc.gov.cn/jkj/s3578/201702/38ca5990f8a54ddf9ca6308fec406157.shtml>.

<sup>5</sup>Towards a rabies-free world as unparalleled global initiative gets underway, Press Release (September 28, 2017), World Health Organization. Available at [http://www.who.int/neglected\\_diseases/news/WRD\\_2017\\_Press\\_release/en/](http://www.who.int/neglected_diseases/news/WRD_2017_Press_release/en/).

<sup>6</sup>Animal Bites Fact Sheet (February 2013), World Health Organization. Available at <http://www.who.int/mediacentre/factsheets/fs373/en/>.

## NEWS IN BRIEF

### Two sporadic cases of necrotising fasciitis caused by *Vibrio vulnificus*

The Centre for Health Protection (CHP) recorded two cases of necrotising fasciitis caused by *Vibrio vulnificus* in late September 2017.

The first patient was a 65-year-old man with underlying illnesses. He presented with fever and left forearm swelling on September 23 and was admitted to a public hospital on the same day. The clinical diagnosis was left forearm necrotising fasciitis. Excisional debridement of left forearm was performed on September 23, 24 and 26 respectively. His left forearm tissue collected on September 23 yielded *Vibrio vulnificus*. He required post-operative high dependency unit care and was treated with antibiotics. His condition subsequently stabilised. He was a fisherman. Before onset of illness, he worked in the South China Sea and he transported the harvest to a fish market in Zhuhai. He handled raw fish with bare hands but he did not recall recent injuries. His home contacts were asymptomatic.

The second patient was a 79-year-old man with underlying illnesses. He presented with fever, right leg pain and swelling on September 28 and was admitted to a public hospital on the same day. The clinical diagnosis was right lower limb necrotising fasciitis. His condition deteriorated and emergency right leg amputation was performed on September 29. His blood specimen collected on September 28 and wound specimens collected on September 29 yielded *Vibrio vulnificus*. He required post-operative intensive care and was treated with antibiotics. His condition subsequently stabilised. He had been to wet market but did not recall recent injuries. His home contacts were asymptomatic.