LENS ON CHP

Above: A tick of the species Haemaphysalis sinensis found in a vegetated area of Hong Kong. Ticks are common vectors for rickettsial diseases such as spotted fever (Source: Pest Control Advisory Section, Food and Environmental Hygiene Department).

NEWS

Recent increase in pertussis infection

Reported by Dr PW Chim, Medical Officer, and Desmond Chan, Scientific Officer, Vaccine Preventable Disease Office, Surveillance and Epidemiology Branch, CHP.

Pertussis (whooping cough) is a highly contagious disease caused by bacterium Bordetella pertussis. The infected person initially may have non-specific symptoms like runny nose, sneezing, low-grade fever and mild cough. The cough gradually becomes more severe and spells of violent coughing can interfere with eating, drinking and breathing. The bacteria can cause lung infection, and even lead to seizures and coma in severe cases.

In the past five years, the annual number of cases of pertussis ranged from 5 to 31 (Figure 1). Despite the number of cases was decreased from 31 in 2007 to 5 in 2010, there has been a recent increase number of pertussis cases reported to the Centre for Health Protection (CHP) in 2011. The number of cases recorded in 2011 (as of August 18, 2011) was 19. All cases recovered after antibiotics treatment. Three domestic outbreaks each involving 2 family members were recorded and no institutional and school outbreaks were reported.

For the 19 pertussis cases reported in 2011, their ages ranged from 1 month to 85 years with a median of 2 months which was comparable to that from 2006 to 2010. According to the Hong Kong Childhood Immunisation Programme (HKCIP), the primary series of pertussis immunisation is completed at 6 months of age. Among the 19 cases reported thus far in 2011, 12 (63%) cases had not received any vaccine (11 of them were not yet due for the first dose of pertussis containing vaccine scheduled at 2 months of age), while 3 (17%) cases had not completed the primary series due to their young age (Figure 2).

The proportion of pertussis cases acquiring the infection outside Hong Kong has been on a rise in recent years (Figure 1). Out of a total of 116 cases

A local case of Streptococcus suis infection

On August 13, 2011, CHP recorded a sporadic local case of streptococcus suis infection affecting a 61-year-man with chronic diabetes. He presented with fever, chills, headache and dizziness on August 7 and was admitted to a public hospital the following day. He developed confusion and bilateral hearing impairment after admission. Blood culture and cerebrospinal fluid yielded Streptococcus suis. He was in stable condition. The patient had no known external wound and had not handled raw pork or pork products recently. His home contact was asymptomatic.

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reported to CHP from 2006 to 2011 (as of August 18, 2011), 28 (24%) were imported cases and majority (25 cases) of them were from Guangdong Province. For 2011, ten cases (53%) were imported cases and all were from Guangdong Province.

Since the 1990s, there has been a resurgence of pertussis in many developed countries, including Australia, Japan and the United States (US). There has been a shift of disease burden from children to adolescents and adults in Australia and Japan. However, such shift in disease burden has not yet observed in Hong Kong and most pertussis cases recorded in Hong Kong are young infants.

Active immunisation with pertussis vaccine is an effective way to prevent the disease. A combination vaccine containing acellular pertussis component (DTap-IPV) is currently used in the HKCIP. The immunisation coverage rates for pertussis vaccine among children in Hong Kong have been maintained at a high level of above 98% according to a territory-wide immunisation coverage survey completed in 2009.

Besides receiving vaccination, other measures to prevent spread of pertussis are also important:

* Maintain good personal and environmental hygiene;
* Maintain good indoor ventilation;
* Keep hands clean and wash hands properly;
* Wash hands when they are dirtied by respiratory secretions e.g. after sneezing;
* Cover nose and mouth while sneezing or coughing and dispose of nasal and mouth discharge properly;
* Cleanse used toys and furniture properly.

Physicians are also reminded to maintain the vigilance in diagnosis and reporting of suspected pertussis to preventing the spread of the infection in Hong Kong.

**More about Pertussis...**

For surveillance purpose, clinical description of pertussis is a cough illness lasting at least 2 weeks with one of the following: paroxysms of coughing, inspiratory “whoop”, or post-tussive vomiting, and without other apparent causes. Laboratory confirmation is either by isolation of the bacterium from a clinical specimen, or positive polymerase chain reaction (PCR) assay for the bacterium.

A confirmed case can be an acute cough illness of any duration together with positive laboratory confirmation, or a case that meets the clinical description with epidemiological-linkage to a case with laboratory confirmation. In recent years, increasing numbers of cases are being confirmed by PCR assay.

**Spotted fever and scrub typhus in Hong Kong**

*Reported by Dr Terence Lam, Scientific Officer, and Dr Eddie Sin, Senior Medical Officer, Enteric and Vector-borne Disease Office, Surveillance and Epidemiology Branch, CHP.*

Spotted fever and scrub typhus are two most commonly diagnosed rickettsial diseases in Hong Kong. Both infections are mainly transmitted through the bites of infected ticks, while scrub typhus is transmitted through infected larval trombiculid mites. Infection of spotted fever can also occur when crushed tissues or faeces of the infected ticks get into the breaks in the skin or mucous membranes. Ticks and trombiculid mites inhabit vegetated areas and attach to vegetation in order to be within easy reach of passing animal hosts, such as rodents, dogs, and humans. They attach to animal hosts as ectoparasite and survive on blood or digested body tissue. The incubation period for spotted fever is commonly 6 to 10 days, while that of scrub typhus is 10 to 12 days. Below we summarised the epidemiological features of the cases notified to the CHP in 2011 (up to August 20, 2011).
**Spotted fever**

There were 22, 13, and 22 cases of spotted fever recorded by CHP in 2008, 2009, and 2010 respectively. As of August 20, 2011, we recorded a total of 11 cases in 2011. More cases have been reported since May this year and three cases have already been recorded in August. This increase was compatible with seasonal pattern as observed in past few years (Figure 1). Spotted fever was more commonly reported in June and July from years 2006 to 2010. The cases reported in 2011 so far affected five males and six females, aged from 4 to 82 years (median age = 55 years). The most common symptoms were fever (11 cases), rash (9 cases), headache (4 cases), and myalgia (4 cases). Eschar was detected in two patients. Except for one case who died of concomitant condition, all patients recovered. All cases acquired the infection locally as none of them travelled outside Hong Kong during the incubation period. Six patients reported history of hiking to vegetated areas in Kowloon and the New Territories during the incubation period. Three reported exposure to vegetated areas near their home area, or near their outdoor work area. Five recalled exposure to arthropod bites. The Food and Environmental Hygiene Department carried out vector control and investigation at locations visited by these patients. No epidemiological linkage among these cases was identified.

**Scrub typhus**

Only one case of scrub typhus was recorded so far this year (as of August 20, 2011) affecting a 62-year-old gentleman. He presented with fever, headache, malaise and right upper quadrant pain in July and was admitted to a public hospital. The patient recovered after treatment with antibiotics. He recalled history of arthropod bite while working outdoor during the incubation period and had an eschar over the right side of the chest. Previously, there were 19, 20, and 17 cases respectively in 2008, 2009, and 2010. The seasonal pattern for scrub typhus is similar to that of spotted fever, with over 70% of the cases in 2006 to 2010 recorded between June and October (Figure 2).

As hiking is a popular activity in the fall, members of the public are reminded to take precautionary measures to prevent spotted fever and scrub typhus. People visiting vegetated areas are advised to wear long-sleeve clothing and to minimize the exposed skin area by tucking the pants inside the socks and wearing shoes that cover the entire foot. Insect repellents should be applied according to manufacturer’s instruction. They should walk in the centre of the trail when in the woods or high grass, and avoid touching bush or shrubby vegetation, stray dogs, rodents, or livestock. They should perform regular self-checking for signs of arthropod bite or attachment. If an attached tick is found, it should be removed as soon as possible by grasping it close to the skin with a pair of forceps and pulling it slowly upwards with steady pressure and at the same time avoiding twisting, crushing, or breaking off its mouthparts. After removing the tick, the bite area should be disinfected and hands should be washed with soap and water. At the end of their activities, it is advisable to remove their clothes and take a shower. Accompanying pets should also be inspected and cleaned. Besides, patients should also seek medical attention as soon as possible if they develop fever after visiting vegetated area, and should report to the physician one’s travel history, exposure to animal, and history of arthropod bite. The following preventive measures for controlling of vectors and the reservoir of the diseases are also useful: disinfecting pets and bedding regularly, trimming vegetation in one’s premises, and preventing rat infestation by depriving them of food and shelter.
SUMMARY OF SELECTED NOTIFIABLE DISEASES AND OUTBREAK NOTIFICATIONS (WEEK 33 - WEEK 34)

Hand, Foot & Mouth Disease Outbreaks

- Week 31: 3
- Week 32: 4
- Week 33: 3
- Week 34: 6

Influenza-like Illness (ILI) Outbreaks

- Week 31: 2
- Week 32: 2
- Week 33: 1
- Week 34: 2

Food Poisoning

- Week 31: 10
- Week 32: 7
- Week 33: 11
- Week 34: 6

Gastroenteritis Outbreaks

- Week 31: 1
- Week 32: 1
- Week 33: 2
- Week 34: 1

Measles

- Week 31: 1
- Week 32: 0
- Week 33: 1
- Week 34: 0

Tuberculosis

- Week 31: 121
- Week 32: 130
- Week 33: 102
- Week 34: 87

Chickenpox

- Week 31: 269
- Week 32: 244
- Week 33: 195
- Week 34: 140

Hepatitis A and Hepatitis E

- Week 31: 2
- Week 32: 3
- Week 33: 2
- Week 34: 1

Data contained within this bulletin is based on information recorded by the Central Notification Office (CENO) and Public Health Information System (PHIS) up until August 20, 2011. This information may be updated over time and should therefore be regarded as provisional only.