Jul 30 - Aug 12 2017 WEEKS 31 - 32 VOL 14 ISSUE N⁰ 16

Communicable Diseases WATCH

衞生防護中心 Centre for Health Protection 衞生署 Department of Health

FEATURE IN FOCUS

Poliomyelitis and acute flaccid paralysis surveillance in Hong Kong

Reported by Ms Anna WONG, Scientific Officer, Vaccine Preventable Disease Office, Surveillance and Epidemiology Branch, CHP.

Poliomyelitis is a viral infection caused by poliovirus which is highly infectious. The faecal-oral route is the major route of transmission, affecting mainly children under five years of age. Most of the cases are asymptomatic. Less than 1% of infected persons will have weakness or paralysis of limbs which is usually asymmetric with legs being affected more than the arm. In severe cases, the paralysis can result in permanent disability or even death.

The disease was widespread globally before the introduction of the polio vaccine in the late 1950s and early 1960s. Since then, the number of polio cases had decreased from an estimate of around 350 000 to 37 reported cases in last year[1]. While most parts of the world are certified polio-free, global polio eradication remains a challenge. Today, endemic transmission of the virus is ongoing in three countries from three different regions of the world, namely Pakistan, Afghanistan and Nigeria. The threat of re-introduction of the virus to polio-free areas necessitates public health concern.

Locally, polio cases dropped significantly after the introduction of polio vaccination into the Hong Kong Childhood Immunisation Programme (HKCIP) in 1963. The last cases of poliomyelitis caused by wild poliovirus and vaccine-associated paralytic poliomyelitis were reported in 1983 and 1995 respectively. Acute flaccid paralysis (AFP) surveillance system was set up in 1997 initially to prepare for World Health Organization (WHO)'s poliomyelitis eradication. In October 2000, Hong Kong was certified polio-free together with other countries in the Western Pacific Region. Subsequent to the certification, the AFP surveillance system continues to monitor the progress in maintaining Hong Kong's polio-free status.

WHO has set up a list of standards to assess the quality of the system. Our AFP surveillance system has been functioning effectively to fulfil the performance indicators set by WHO. The sensitivity, timeliness and completeness of the system were all met with reference to the performance indicators during the period of 2012 to 2016 (Table 1). However, the WHO target of at least 80% of AFP cases with two adequate stool specimens is yet to be reached this year. In 2017, there were eight reported AFP cases as of July 31, among which only six cases provided two adequate stool specimens for investigation.

Before the global eradication of poliomyelitis is achieved, there is always a possibility of re-introduction of the poliovirus to places that have been declared disease free. The highly mobile population and heavy international travel in Hong Kong pose a constant risk of poliovirus importation. Hong Kong has been devoting its utmost effort to maintain polio-free and to support global polio eradication. In the recent immunisation survey conducted in 2015, we have maintained a high immunisation coverage rate for polio vaccine which is above 95%.

In this regard, to help maintain Hong Kong's high standard of AFP surveillance, we urged continuous support from all doctors to promptly report cases of

Table 1 - Performance of Acute Flaccid Paralysis Surveillance in Hong Kong, 2012-2017.

Performance Indicators	Target	Actual Performance					
		2012	2013	2014	2015	2016	2017#
Number of non-polio AFP cases per 100 000 population aged < 15	> 1	1.2	1.5	2.3	1.25	1.25	1
Percentage of surveillance site providing routine report (including "zero reports") on time	> 80%	83%	82%	92%	98%	97%	97%
Percentage of AFP cases investigated	> 80%	100%	100%	100%	100%	100%	100%
Percentage of AFP cases investigated < 48 hrs	> 80%	100%	100%	100%	100%	100%	100%
Percentage of AFP cases follow-up at 60 days	> 80%	100%	100%	100%	100%	100%	Pending
Percentage of AFP case with two adequate stool specimens	> 80%	86%	100%	89%	90%	90%	75%
Percentage of specimen results sent from national laboratory within 14 days of receipt of the specimen in the laboratory	> 80%	98%	97%	93%	94%	100%	100%

#*as of July 31, 2017*

[1]World Health Organization [Internet]. Poliomyelitis fact sheet number 114. Geneva: WHO; 2017. Available from: http://www.who.int/mediacentre/factsheets/fs114/en/index.html, accessed August 8, 2017.

children aged under 15 years presenting with features compatible with AFP to Central Notification Office (CENO) by fax (2477 2770) or via CENO on-line at https://cdis.chp.gov.hk/CDIS_CENO_ONLINE/ceno.html, and arrange two stool specimens, at least 24 hours apart within 14 days of onset of paralysis. We also take this opportunity to thank you for the continual support from key physicians and infection control teams in both private and public sectors to participate in the monthly zero reporting that ensures completeness of our AFP surveillance system.

Review of food poisoning in Hong Kong, 2012-2017 (as of April 30, 2017)

Reported by Dr Zenith WU, Medical and Health Officer, Enteric and Vector-borne Disease Office, Surveillance and Epidemiology Branch, CHP.

Food poisoning is a notifiable infectious disease in Hong Kong. It results from consumption of contaminated food or water containing bacteria, viruses or toxins of biochemical or chemical nature. The incubation period of food poisoning varies from hours to days depending on the nature of the causative agent. Common symptoms include vomiting, diarrhoea and abdominal pain, with or without fever. While the symptoms are self-limiting in most patients, serious complications such as dehydration and septicaemia leading to death may occur when appropriate treatment is delayed, but these are rare. In this article, we reviewed the local epidemiology of food poisoning from 2012 to 2017 (as of April 30), with a focus on food poisoning due to bacteria which was the commonest cause among confirmed food poisoning cases.

During 2012 to 2017 (as of April 30), the Centre for Health Protection (CHP) of the Department of Health recorded 1 449 food poisoning cases, affecting 6 235 persons. From 2012 to 2016, the annual number of cases ranged from 213 to 378, with the number of persons affected ranged from 1 076 to 1 529. There was a general decreasing trend in both the annual number of cases and number of people affected (Figure 1). A seasonal trend was observed with more cases recorded in January to February and July to August (Figure 2).

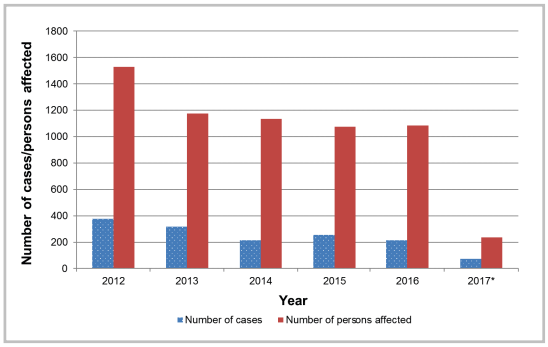

*Figure 1 - Number of food poisoning cases and persons affected, 2012–2017 (*up to April 30).*

Among these 1 449 cases, 399 (27.5%) were confirmed, affecting 1 886 persons. Bacteria were accountable for the majority (256 cases, 64.2%) of these confirmed cases, affecting 1 256 persons, followed by biochemical (71 cases, 17.8%), virus (63 cases, 15.8%) and chemical (9 cases, 2.3%).

Although a few clusters of epidemiologically linked food poisoning outbreak were recorded in recent years, most of the bacterial food poisoning cases were of small scale with the majority (84.8%) of them affecting five persons or below and only 2.3% of the cases affected more than 20 persons. The male-to-female ratio of the persons affected was 1:1.2 and the majority of them were adults aged 20 to 65 years (75%) with age groups of the two age extremes being less commonly affected. One hundred and sixty seven affected persons (13.3%) required hospitalisation. The commonest causative agents identified were non-typhoidal *Salmonella* (169 cases, 66%) and *Vibrio parahaemolyticus* (74 cases, 28.9%). More confirmed food poisoning cases due to both non-typhoidal *Salmonella* and *Vibrio parahaemolyticus* were recorded in the warmer months (Figure 3).

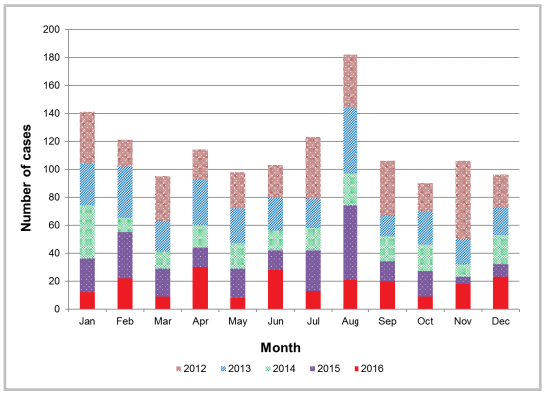

Figure 2 - Number of food poisoning cases by year and month, 2012–2016.

In food poisoning cases caused by non-typhoidal *Salmonella* with single incriminating food item and ingredient, the commonest incriminating food ingredients were egg (63.2%), meat such as beef and pork (excluding chicken) (26.3%) and chicken (6.1%). In contrast, seafood (58%) such as shrimp, crab, oyster and clam, was the commonest incriminating food ingredients in cases attributed to *Vibrio parahaemolyticus*, followed by chicken (25%).

In summary, the annual number of food poisoning cases and number of people affected decreased over the past five years. Although a few clusters of epidemiologically linked food poisoning outbreak were recorded in recent years, most of the bacterial food poisoning cases were of small scale. Members of the public are reminded to practice food safety to prevent food poisoning. The "5 Keys to Food Safety", advocated by the World Health Organization and adopted by the Centre for Food Safety of the Food and Environmental Hygiene Department, are five simple and effective keys for people to follow when handling food to prevent foodborne diseases[1]. The core messages of the 5 Keys to Food Safety are:

1. Choose (Choose safe raw materials);
2. Clean (Keep hands and utensils clean);
3. Separate (Separate raw and cooked food);
4. Cook (Cook thoroughly); and
5. Safe Temperature (Keep food at safe temperature).

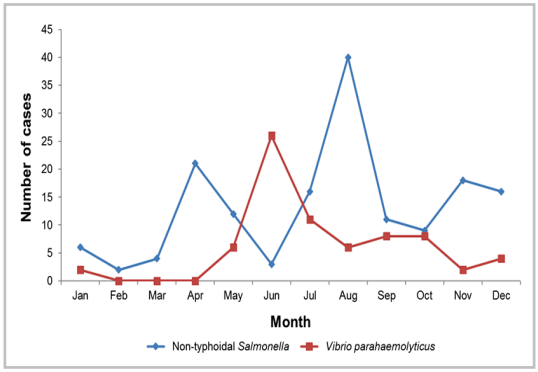

Figure 3 - Number of confirmed food poisoning cases due to non-typhoidal Salmonella and Vibrio parahaemolyticus by month, 2012-2016.

Reference

[1]Centre for Food Safety (2014) 5 Keys to Food Safety.
Available at http://www.cfs.gov.hk/english/consumer_zone/consumer_zone_5_Keys_to_Food_Safety.html.

NEWS IN BRIEF

Two sporadic cases of necrotising fasciitis due to *Vibrio vulnificus* infection

From July 31 to August 11, 2017, the Centre for Health Protection (CHP) recorded two sporadic cases of necrotising fasciitis due to *Vibrio vulnificus* infection. The first patient was an 81-year-old male with underlying illnesses. He presented with right knee and ankle swelling on July 27 and was admitted to a public hospital on July 29. The clinical diagnosis was necrotising fasciitis complicated with acute kidney injury. Excisional debridement of right lower leg was performed on July 30 and he required intensive care after the operation. His wound swab taken on July 30 grew *Vibrio vulnificus*. He passed away on July 31. He did not have recent travel history and his home contact remained asymptomatic. The patient recalled history of right knee and foot abrasion when walking along the seashore in Sha Tau Kok during incubation period.

The second patient was a 67-year-old male with underlying illnesses. He presented with left foot swelling and pain since August 5. He saw a private doctor on August 6. His condition worsened and the patient attended an Accident and Emergency Department (AED) of a public hospital on August 7. He was admitted on the same day. The clinical diagnosis was necrotising fasciitis. Excisional debridement of left foot was performed. Specimens of left foot tissue collected on August 10 grew *Vibrio vulnificus*. His current condition was stable. Epidemiological investigation revealed that he sustained an injury over his left sole while picking up clams at a beach near Siu Lam on August 4. He did not have any travel history during incubation period. He lived with his wife who remained asymptomatic. Investigation is ongoing.

A sporadic case of *Streptococcus suis* infection

On August 1, 2017, CHP recorded a sporadic case of *Streptococcus suis* infection affecting a 43-year-old man with good past health. He had presented with fever with chills and rigors, dizziness and headache on July 26. He attended a traditional Chinese medical practitioner for treatment but symptom persisted. He subsequently developed confusion and was brought to the AED of a public hospital on July 28 and was admitted on the same day. His blood culture yielded *Streptococcus suis*. The clinical diagnosis was sepsis and meningitis. He was given courses of antibiotics and his condition remained stable. Investigation revealed that the patient was a construction site worker. He lived with his wife in Yuen Long. He had an abrasion wound over right arm but denied history of handling raw pork during incubation period. He did not travel during the incubation period. His wife remained asymptomatic. Investigation is ongoing.

A sporadic confirmed case of brucellosis

On August 2, 2017, CHP recorded a confirmed case of brucellosis affecting a 76-year-old man with underlying illness. He presented with dizziness and sustained a fall on July 13. He was admitted to a public hospital on the same day. He developed fever on July 15 after admission and his fever persisted despite treatment with antibiotics. His paired serology collected on July 22 and 26 showed four-fold rise in antibody titre against *Brucella abortus* and *Brucella melitensis*. His condition was stable. He had no recent travel history. No risk factor was identified. His home contact was asymptomatic. Investigation is on-going.

Two sporadic cases of psittacosis

On August 3, 2017, CHP recorded two sporadic cases of psittacosis. The first case was a 54-year-old woman with good past health. She presented with fever, cough and shortness of breath on July 21. She was admitted to a public hospital on July 31 and her chest X-ray (CXR) showed bilateral pneumonia. Her illness was complicated with respiratory failure and septic shock requiring intensive care, mechanical ventilation, inotropic support and antibiotics treatment. Her endotracheal aspirate collected on July 31 was tested positive for *Chlamydophila psittaci* DNA by polymerase chain reaction (PCR). She was transferred back to the general medical ward on August 12 and her condition was stable. She travelled to Guangdong for a day trip during the incubation period. She denied any direct contact with birds during her travel to Guangdong or in Hong Kong, but recalled history of removing bird droppings from her balcony at home.

The second case was a 63 year-old male with underlying illnesses. He presented with fever and cough since July 22 and later developed shortness of breath. He was admitted to a public hospital on July 26 and was transferred to the intensive care unit on the same day. His CXR showed right lower zone consolidation. The clinical diagnosis was pneumonia. His sputum and nasopharyngeal aspirate taken on July 26 and tracheal aspirate taken on July 27 were all tested positive for *Chlamydophila psittaci* DNA by PCR. He was treated with antibiotics. He was transferred back to general medical ward on August 12 and his current condition was stable. He had travelled to Guangdong on July 15 to 16. He denied any direct contact with birds, bird droppings or bird carcasses during the incubation period.

Their travel collaterals and household contacts were asymptomatic. So far, no epidemiological linkage has been identified among the two cases. Investigations are on-going.

A sporadic case of listeriosis

On August 8, 2017, CHP recorded a case of listeriosis affecting an 89-year-old woman with pre-existing medical conditions. She presented with abdominal pain and decreased appetite on July 24, and was admitted to a public hospital on July 30. Her blood specimen collected on July 31 grew *Listeria monocytogenes*. The clinical diagnosis was sepsis and she was treated with antibiotics. Subsequently, she developed septic shock with multi-organ failure and she passed away on August 2. According to the patient's son, she lived alone and had no recent travel history. She did not consume high risk food during the incubation period. Investigation is on-going.