

Communicable Diseases

WATCH



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FEATURE IN FOCUS

Review on Dengue Fever in Hong Kong, 2008-2018

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

Facts on dengue fever

Dengue fever (DF) is caused by the dengue virus which comprises four serotypes (type 1 to type 4). It is transmitted to humans through the bites of female *Aedes* mosquitoes. In Hong Kong, the principal vector *Aedes aegypti* is not found but the mosquito *Aedes albopictus*, which can also spread the disease, is commonly found. After a vector mosquito bites a patient suffering from DF, it may spread the disease by biting other people. Some infected people may not develop apparent symptoms or may only have mild symptoms like fever. Those who develop symptoms may have high fever, severe headache, pain behind the eyes, muscle and joint pain, nausea, vomiting, swollen lymph nodes and rash. The symptoms of first infection with one serotype are usually mild but subsequent infections with other serotypes of dengue virus are more likely to result in severe dengue (also known as “dengue haemorrhagic fever”), a severe and potentially fatal complication of DF. Currently there is no specific treatment for DF or severe dengue. DF is mostly self-limiting and symptomatic treatment could be offered to relieve discomfort, whereas patients with severe dengue should be treated promptly with supportive management. At present, there is no locally registered dengue vaccine available in Hong Kong.

DF is one of the most important vector-borne diseases in Hong Kong. DF is found in tropical and sub-tropical regions around the world. According to the World Health Organization, the incidence of DF has grown dramatically around the world in recent decades and about half of the world's population is now at risk of DF¹. It is now endemic in more than 100 countries in Africa, the Americas, the Eastern Mediterranean, South-east Asia and the Western Pacific.

In Hong Kong, DF is a notifiable disease since March 1994. All registered medical practitioners are required to notify the Centre for Health Protection (CHP) of the Department of Health of all suspected or confirmed cases of DF.

From 2008 to 2018 (as of July 26), CHP recorded a total of 857 DF cases. From 2008 to 2017, the annual number of cases ranged from 30 to 124 (Figure 1). In 2018, 51 cases have been recorded as of July 26. The number of cases recorded from 2013 to 2017 was 555, which accounted for 68.9% of the total number of cases in the past 10 years.

The 857 cases involved 471 males and 386 females, with ages ranging from three to 84 years (median: 37 years). Among the patients, fever was the most common symptom (828, 96.6%), followed by headache (523, 61%) and rash (451, 52.6%). Other common symptoms included myalgia (441, 51.5%), arthralgia (219, 25.6%) and eye pain (184, 21.5%). Six hundred and fifty one patients (76%) required hospitalisation and the length of stay ranged from one to 16 days (median: five days). Eight of them had severe dengue. No fatal case was recorded.

Most of the cases (841, 98.1%) were imported from other countries/areas. For the 789 imported cases with the place of infection determined, the five countries that the patients had most commonly travelled to during the incubation period were Thailand (175), Indonesia (170), the Philippines (140), India (57) and Malaysia (52). For the remaining 52 imported cases, the patients had travelled to multiple countries during the incubation period. Local cases were recorded in 2010 (four cases), 2014 (three cases), 2015 (three cases), 2016 (four cases) and 2017 (one case).

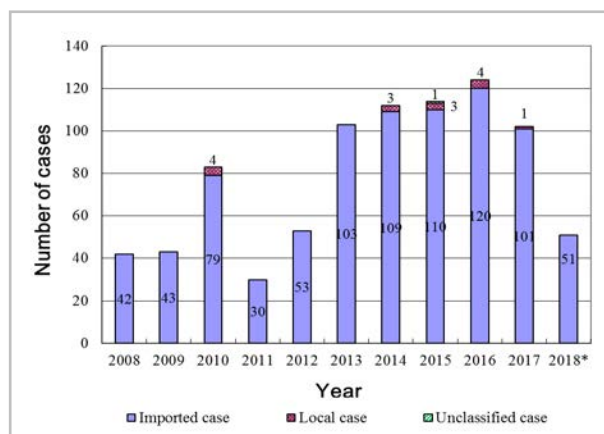


Figure 1 – Annual number of DF cases from 2008 to 2018 (*figures as of July 26).

In 2018, all 51 cases recorded were imported cases. The patients had travelled to Thailand (21), the Philippines (10), Cambodia (7), Indonesia (4), Vietnam (3), India (2), Malaysia (1), the Maldives (1), Singapore (1) and one of them had been to multiple countries during the incubation period. Among the 33 patients with positive dengue virus genomic sequences detected in serum samples by polymerase chain reaction, the most common type of dengue virus was type 1 (19, 57.6%), followed by type 2 (seven, 21.2%) and type 3 (seven, 21.2%).

The monthly ovitrap index for *Aedes albopictus* for June rose to 11.3 per cent from 10.2 per cent in May, indicating that mosquito infestation was slightly more extensive in the areas surveyed. In view of the current hot and humid weather with frequent showers which is favourable to mosquito breeding, the public should step up anti-mosquito measures to prevent DF and other mosquito-borne diseases. Members of the public are reminded to protect themselves from mosquito bites and help prevent their proliferation.

Protect yourselves against bites

- ◆ Wear loose, light-coloured long-sleeved tops and trousers;
- ◆ Use DEET-containing insect repellent on exposed parts of the body and clothing; and
- ◆ Take additional preventive measures when engaging in outdoor activities:
 - Avoid using fragrant cosmetics or skin care products; and
 - Re-apply insect repellents according to instructions.

Special notes when travelling abroad

- ◆ Before the trip
 - If going to affected areas or countries, arrange a consultation with doctor at least six weeks before the trip, and have extra preventive measures to avoid mosquito bite.
- ◆ During the trip
 - If travelling in endemic rural areas, carry a portable bed net and apply permethrin (an insecticide) on it. Permethrin should NOT be applied to skin; and
 - Seek medical attention as early as possible if feeling unwell.
- ◆ Upon returning to Hong Kong
 - Travellers who return from affected areas should apply insect repellent for 14 days after arrival in Hong Kong. If feeling unwell e.g. run a fever, should seek medical advice promptly, and provide travel details to doctor.

Help prevent vector proliferation

- ◆ Prevent accumulation of stagnant water
 - Change the water in vases once a week;
 - Clear the water in the saucers under potted plants every week;
 - Cover water containers tightly;
 - Ensure air-conditioner drip trays are free of stagnant water; and
 - Put all used cans and bottles into covered dustbins.
- ◆ Control vectors and reservoir of the diseases
 - Store food and dispose of garbage properly.

Pregnant women and children of six months or older can use DEET-containing insect repellent. For children who travel to countries or areas where mosquito-borne diseases are endemic or epidemic and where exposure is likely, children aged two months or above can use DEET-containing insect repellents with a concentration of DEET up to 30%.

For more information about vector-borne diseases, please visit the CHP website at: <https://www.chp.gov.hk/en/healthtopics/content/24/34622.html>.

References

¹World Health Organization (2018). Dengue and severe dengue.

Available at: <http://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>, accessed on July 25, 2018.

Review of acute infectious conjunctivitis (ACJ) in Hong Kong, 2014-2018 (as of July 31, 2018)

Reported by Dr Shirley TSANG, Scientific Officer, Respiratory Disease Office, Surveillance and Epidemiology Branch, CHP

Acute infectious conjunctivitis (ACJ), commonly known as “red eye” or “pink eye”, is an inflammation of the conjunctiva (the outermost layer of the eye and the inner surface of the eyelids). Clinically, patients usually present with eye redness and discharge. Other symptoms may include eyelid swelling, foreign body sensation, excessive tearing, itchiness, pain and sensitivity to light. Vision is not affected unless there is scarring of the cornea after the infection. The disease can affect people of all ages, but

children aged under five years are most frequently affected. ACJ is a highly infectious disease and able to spread widely in the community. It is usually transmitted through direct contact with discharge from the eyes or upper respiratory tract of infected people, or indirectly through contaminated fingers, clothing, and use of contaminated articles, such as shared eye makeup applicators, towels and topical eye medications. The disease is usually a mild, self-limited disease and clinical symptoms often subside in one to two weeks if properly treated.

This article reviewed the ACJ outbreaks recorded by the Centre for Health Protection (CHP) of the Department of Health from 2014 to 2018 (as of July 31, 2018).

From 2014 to 2018 (as of July 31, 2018), CHP recorded 27 reports of ACJ outbreaks, affecting a total of 200 persons. There were one to nine outbreaks each year from 2014 to 2017 (Figure 1). In the first seven months of 2018, eight ACJ outbreaks have been recorded. The number of persons affected in each outbreak ranged from three to 24 persons with a median of six persons. No obvious seasonal pattern was observed for ACJ in the past four years (from 2014 to 2017) (Figure 2). Among the 27 outbreaks, 12 outbreaks (44%) occurred in kindergartens/ child care centres, three (11%) in primary schools, two (7%) in residential care homes for the elderly, one (4%) in a hospital and eight (30%) in other institutions. The remaining one was a home outbreak.

CHP also monitors the disease activity of ACJ in the community through sentinel surveillance systems. The average weekly consultation rates for ACJ among sentinel general practitioners (GP) ranged from 1.1 to 3.2 per 1 000 consultations in the past four years (from 2014 to 2017). That among sentinel General Outpatients Clinics (GOPC) ranged from zero to 5.8 per 1 000 consultations. There is no obvious seasonal pattern observed (Figure 3). The surveillance data showed that the consultation rate for ACJ among sentinel GP had increased in the period from May to July this year with the weekly rate persistently above two per 1 000 consultations, as compared with less than two per 1 000 consultations in the first three months. The corresponding rates among GOPC fluctuated in the range about two to 3.5 per 1 000 consultations in this year.

ACJ can be caused by bacteria or viruses. *Haemophilus influenzae* and *Staphylococcus aureus* are the commonest bacterial causes, while adenoviruses and enteroviruses are mainly responsible for viral conjunctivitis. Among the 704 eye swabs collected from ACJ patients through the sentinel system for bacterial culture from 2014 to 2018 (up to June 2018), 90 specimens (13%) yielded positive cultures. *Haemophilus influenzae* (42/90, 47%) and *Staphylococcus aureus* (15/90, 17%) were the commonest bacteria isolated. For the throat swabs collected from ACJ patients within the same period, 74 specimens (74/392, 19%) yielded positive results by polymerase chain reaction, and adenovirus accounted for 20% (15/74) of all positive specimens.

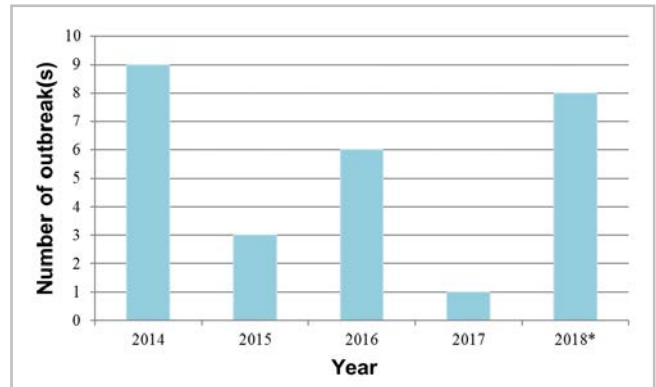


Figure 1 - Number of ACJ outbreaks, 2014-2018 (*as of July 31, 2018).

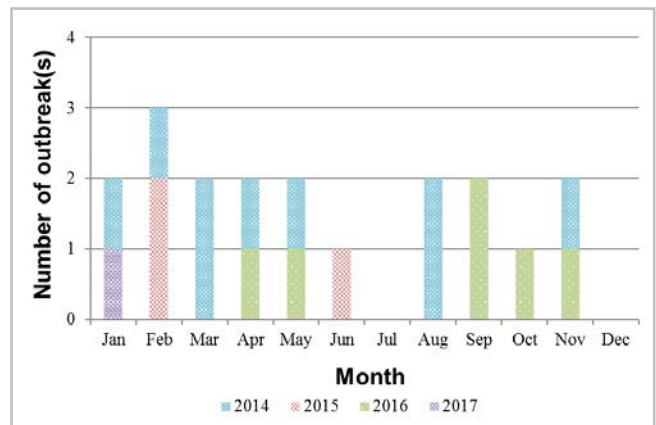


Figure 2 - ACJ outbreaks reported to CHP by month, 2014 -2017.

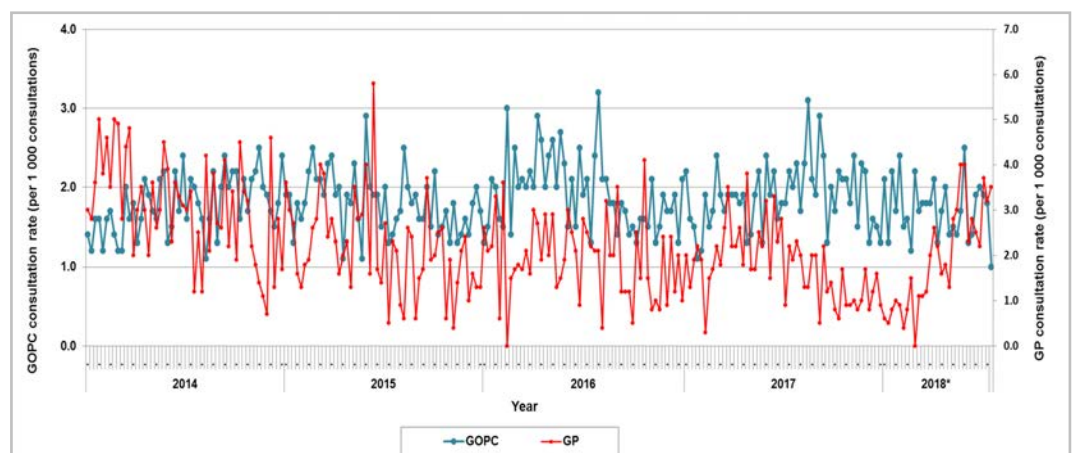


Figure 3 - Weekly consultation rates of acute conjunctivitis reported by sentinel general practitioners and sentinel general outpatient clinics, 2014-2018 (*as of July 31, 2018).

More information on ACJ is available on the CHP website at: <https://www.chp.gov.hk/en/healthtopics/content/24/6529.html>.

To prevent ACJ, members of the public are advised to take heed of the following preventive measures:

1. Observe good personal hygiene:
 - ❖ Avoid sharing personal items such as towels, toilet articles, and pillowcases with other people;
 - ❖ Avoid sharing eye medicines (including eye drops), eye makeup, contact lenses and other items that may come into contact with eyes; and
 - ❖ Minimise hand-to-eye contact and if such contact is unavoidable, wash hands thoroughly with soap and water before and after contact with the eyes.

2. When suffering from infectious conjunctivitis:
 - ❖ Seek early medical attention;
 - ❖ Avoid touching or rubbing the infected eyes;
 - ❖ Wash personal items such as bed linen, pillowcases and towels in hot water and detergent;
 - ❖ Properly dispose items soiled with eye or respiratory secretions;
 - ❖ Avoid wearing eye makeup or contact lenses; and
 - ❖ Symptomatic children should seek medical advice and stop attending schools/institutions and avoid going to swimming pools and other crowded public places.

NEWS IN BRIEF

A domestic cluster of pertussis

The Centre for Health Protection (CHP) is investigating a domestic cluster of pertussis affecting a three-year-old girl and her 41-year-old mother. The mother had presented with productive cough, runny nose, sore throat and shortness of breath since May 24, and was admitted to a private hospital on June 28. Her nasopharyngeal swab (NPS) collected on June 28 was tested positive for *Bordetella pertussis*. She was treated with azithromycin. Her condition was stable and she was discharged on June 30.

The girl presented with mild dry cough on July 3 and attended the out-patient clinic of a private hospital on July 7 and 13 respectively. Her NPS collected on July 13 was tested positive for *Bordetella pertussis*. She was treated with azithromycin. Her condition was stable and did not require hospitalisation.

The two patients had no travel history during the incubation period. The daughter had received four doses of Diphtheria, Tetanus, acellular Pertussis & Inactivated Poliovirus Vaccine according to the schedule of Hong Kong Childhood Immunisation Programme whereas the mother was unsure about her vaccination history against pertussis. Other household contacts were asymptomatic and they were given chemoprophylaxis.

A sporadic case of listeriosis

On July 26, 2018, CHP recorded a case of listeriosis affecting an eight-month-old girl with good past health. She had presented with fever, vomiting and diarrhoea since July 13. She attended an emergency medicine centre of a private hospital on July 16 and was referred to a public hospital for admission on the same day. Her cerebrospinal fluid collected on July 24 grew *Listeria monocytogenes*. She was treated with antibiotics and her condition was stable. Epidemiological investigation could not identify any high-risk food consumed during the incubation period. She had no recent travel history and her household contacts remained asymptomatic.

A sporadic case of psittacosis

In July 2018, CHP recorded a sporadic case of psittacosis affecting a 36 year-old domestic helper with good past health. She had presented with fever and cough with sputum since June 27 and was admitted to a public hospital on July 4. Her chest X-ray showed left lower zone consolidation. The clinical diagnosis was pneumonia. Her nasopharyngeal aspirate taken on July 5 was tested positive for *Chlamydia psittaci* DNA by PCR. She was treated with antibiotics. She remained stable and was discharged on July 11. Epidemiological investigation revealed that her employer's family had kept two pet parrots since March 2018. The parrots were reported asymptomatic. She denied direct contact with them and did not need to take care of the parrots and the cages but the parrots were kept in the living room. She had no recent travel history and denied contact with any other sick bird or bird carcass during the incubation period. The employer's family remained asymptomatic. The employer reported to have released the parrots after the helper was sick. CHP visited the patient's home with the Agricultural, Fisheries and Conservation Department (AFCD) on July 18 and no parrots were identified.