FEATURE IN FOCUS
A review of hand, foot and mouth disease (HFMD) in Hong Kong
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Hand, foot and mouth disease (HFMD) occurs throughout the year but the disease activity usually peaks from May to July in Hong Kong. From 2012 to 2014, a smaller peak also occurred from October to December. In 2015, the summer peak season of HFMD lasted longer than usual. The HFMD activity remained at high level since the summer peak in 2015, only started to decline in January 2016 and returned to baseline in March 2016. This article described the epidemiology of HFMD in 2016 and 2017.

In the 2016 summer peak, the HFMD activity started to increase since May, peaked in July and declined to a stable level in early September. However, the HFMD activity increased again in late September and remained at high level in 2016. The HFMD activity started to decrease in early January 2017 and has returned to baseline level in late January (Figures 1 to 3).

The Centre for Health Protection of the Department of Health recorded a total of 691 and 874 HFMD/herpangina institutional outbreaks in 2015 and 2016 respectively. In 2016, an average of 73 HFMD/herpangina institutional outbreaks per month was recorded (range: 11 to 192). Among the 874 outbreaks, 528 (60.4%) occurred in child care centres/ kindergartens, 203 (23.2%) in primary schools and 111 (12.7%) in secondary schools. The remaining 32 (3.7%) outbreaks occurred in other institutions such as special schools, other residential institution/hostel, post-secondary institutions and university halls etc. The size of outbreaks ranged from two to 34 persons (median: four persons). One hundred and thirty one (15.0%) institutional outbreaks had positive causative agents identified. The confirmed outbreaks were associated with Coxsackievirus A6 (30.5%), followed by Coxsackievirus A4 (7.6%), Enterovirus 71 infection (EV71) (3.1%), Coxsackievirus A10 (2.3%), Coxsackievirus A16 (2.3%), Coxsackievirus A (unspecified) (2.3%), mixed agents (0.8%) and untyped enteroviruses (51.1%). As of January 31, a total of 15 HFMD/herpangina institutional outbreaks were recorded in 2017.

A total of 38 EV71 infections, affecting 22 (57.9%) males and 16 (42.1%) females, were recorded in 2016. The number was fewer than that in 2015 (56 cases). The patients’ ages ranged from nine days to 34 years (median: 2.3 years). Thirty-one EV71 cases required hospitalisation with a median length of stay of three days (range: one to 18 days). Two cases developed severe complications (e.g. encephalitis and acute flaccid paralysis). As of January 31, 2017, a total of six EV71 cases were recorded in 2017 affecting three males (50%) and three females (50%). Their ages ranged from three to 12 years (median: 6.5 years). No fatal cases were recorded in 2016 and 2017 so far.

Figure 1 - Number of institutional HFMD/herpangina outbreaks recorded by CHP, 2015 to 2017 (as of January 31, 2017).

Figure 2 - Occurrence of HFMD in sentinel child care centres/ kindergartens (CCC/KG), under Sentinel Surveillance of Infectious Diseases, 2015 to 2017 (as of January 31, 2017). (Note: Broken line in the chart represented suspension of reports due to school holidays).

Figure 3 - Accident & Emergency Departments surveillance of HFMD syndrome, 2015 to 2017 (as of January 31, 2017).
There were eleven cases of severe paediatric enterovirus infections (SE) other than EV71 and poliovirus, affecting four males (36.4%) and seven (63.6%) females, in 2016. The number was greater than that recorded in 2015 (8 cases). The patients’ ages ranged from eight days to 10 years (median: three months). All were inpatients with a median length of stay of eight days (range: four to 51 days). The complications of the SE cases were meningitis (6 cases), meningitis and myocarditis (2 cases), encephalitis (1 case), enterovirus infection of central nervous system and cerebellar ataxia (1 case) and meningoencephalitis (1 case). The laboratory results revealed that three cases were associated with coxsackieviruses with subtype of B1, B3 and A10 respectively while the laboratory results of the rest of the eight cases were enteroviruses other than EV71. No fatal cases were recorded in 2016 so far. As of January 31, no SE cases were recorded in 2017.

Currently, the HFMD activity has returned to baseline level, members of the public are reminded to continue to stay vigilant and observe good personal and environmental hygiene to prevent the disease.

**Prevention of HFMD**

Good hygiene practices are the mainstay of prevention:

- Maintain good personal hygiene;
- Wash hands with liquid soap and water especially:
  - before touching nose and mouth;
  - before eating or handling food;
  - after touching blister;
  - after using the toilet;
  - when hands are contaminated by respiratory secretions e.g. after coughing or sneezing; and
  - after changing diapers or handling soiled articles;
- Cover both the nose and mouth with a handkerchief or tissue paper when coughing or sneezing and discard the tissue paper into garbage bins with lids;
- Do not share towels and other personal items;
- Frequently clean and disinfect touched surface such as furniture, toys and commonly shared items with 1:99 diluted household bleach (mixing one part of 5.25% bleach with 99 parts of water), leave for 15 to 30 minutes, and then rinse with water and keep dry;
- Use absorbent disposable towels to wipe away obvious contaminants such as respiratory secretions, vomitus or excreta, and then disinfect the surface and neighbouring areas with 1:49 diluted household bleach (mixing one part of 5.25% bleach with 49 parts of water), leave for 15 to 30 minutes and then rinse with water and keep dry;
- Avoid group activities when HFMD outbreak occurs in the school or institution. Besides, minimise staff movement and arrange the same group of staff to take care of the same group of children as far as possible; and
- Avoid close contact (such as kissing, hugging) with infected persons.

**Review of necrotising fasciitis associated with vibrio vulnificus infection**

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*Vibrio vulnificus* (*V. vulnificus*) is a bacterium that normally lives in warm seawater. It may cause infection in those who have open wounds exposed to seawater or in those who eat seafood contaminated with the bacteria. Besides, consuming contaminated food with *V. vulnificus* may occasionally cause diarrhoea, vomiting and abdominal pain. *V. vulnificus* can also cause necrotising fasciitis which is a serious bacterial infection of the soft tissue and fascia. In this article, we reviewed the epidemiology of necrotising fasciitis associated with *V. vulnificus* infection (NFVV) recorded by the Centre for Health Protection (CHP) of the Department of Health (DH) from 2012 to 2016.

From 2012 to 2016, a total of 73 cases of NFVV were recorded. The annual number of cases ranged from eight to 18 (Figure 1). Over half of the NFVV cases (65.8%) were recorded in the summer months between June and September (Figure 2). As of January 31, no cases were recorded in 2017.
All 73 cases were adults with ages ranging from 37 to 102 years (median: 74 years). Forty-five (61.6%) males and 28 (38.4%) females were affected. Over half of the cases (68.5%) were 65 years of age or above. Sixty-two patients (84.9%) had pre-existing medical illnesses such as hypertension, diabetes mellitus, heart disease and chronic liver disease.

The patients commonly presented with swelling (84.9%), followed by pain (80.8%) and fever (64.4%). Lower limbs (63.0%) were more likely to be affected than upper limbs (35.6%). One case had both upper and lower limbs involved. All patients required hospitalisation. Fifty-eight cases (79.5%) required intensive care unit admission. Thirty-two patients (43.8%) required amputation. Fifty-two cases were discharged from hospitals with median length of stay of 40 days (range: 10 to 112 days). A total of 18 cases died from NFVV in the reporting period. The annual case fatality rate ranged from 11.8% to 37.5% (median: 29.4%) (Figure 1).

Epidemiological investigation revealed that 38 cases (52.1%) recalled history of trauma before onset of symptoms. Among the 38 cases, 23 cases (60.5%) were injured by raw seafood. The most common seafood involved was fish (82.6%), followed by crab (8.7%) and prawn (8.7%).

\textit{V. vulnificus} infection is not a notifiable infectious disease in Hong Kong. Nevertheless, doctors are encouraged to report these cases to CHP since November 2006. NFVV can cause serious illness associated with intensive care admission, amputation and high fatality. Doctors and members of the public are advised to maintain vigilance against the disease especially during summer months. Patients should promptly seek medical advice if relevant symptoms and signs of infection such as increasing redness, pain, swelling and pus develop.

\textbf{NEWS IN BRIEF}

\textbf{A probable case of sporadic Creutzfeldt-Jakob disease}

The Centre for Health Protection recorded a probable case of sporadic Creutzfeldt-Jakob disease (CJD) on January 18, 2017, affecting a 57 year-old man with good past health. He presented with progressive memory loss since June 2016. He was noted to have abnormal behaviour and suicidal ideation since early December and was admitted to a public hospital on December 10, 2016. Upon admission, he was found to have progressive dementia, muscle rigidity, myoclonus and visual hallucination. Findings of magnetic resonance imaging of the brain and electroencephalography were compatible with CJD. His condition was stable. No risk factors for either iatrogenic or variant CJD were identified. He was classified as a probable case of sporadic CJD.

\textbf{COMMUNICABLE DISEASES WATCH}