



保障市民健康
Protecting Hong Kong's health



Department of Health
Hong Kong SAR

Features:

Epidemiology of EV71 infection in Hong Kong, 1998-2008
Recommendation on the use of Human papillomavirus (HPV) vaccine



LENS ON CHP



Above: Briefing sessions organized by CHP for primary schools, kindergartens and Child Care Centres on prevention of Hand-foot-mouth disease and EV71, were held from May 8 to May 20, 2008.

NEWS

CA-MRSA cases in April

In April, the Centre for Health Protection (CHP) recorded 23 cases of community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infection, affecting 11 males and 12 females with ages between 4 months and 72 years (median 38 years). Twelve were Chinese, the others were Pakistani (2), Filipino (2), Indonesian (1), French (1), British (1) and Australian (1) and the rest were of unknown ethnicity (3). Among these cases, there were 5 managers/clerks, 3 professionals (1 accountant, 1 pilot, and 1 teacher), 3 domestic helpers, 2 service workers, 2 students, 2 retirees, 1 housewife, as well as 5 with unknown occupation. All cases presented with skin or soft tissue infection and had recovered. The isolates of all 23 cases exhibit Pantone-Valentine Leucocidin (PVL) gene and were positive for SCCmec type IV (18) or V (5). There was one

(continued on page 38)

Epidemiology of EV71 infection in Hong Kong, 1998-2008

Reported by **DR ALBERT AU**, Medical Officer, Field Epidemiology Training Programme, CHP.

Increase in hand, foot and mouth disease (HFMD) activity, including cases caused by Enterovirus 71 (EV71), has recently been reported in some provinces of Mainland China, Macao Special Administrative Region, Taiwan and Singapore. The Centre for Health Protection (CHP) has also observed increases in both the HFMD activity and the number of EV71 infections since April this year. Up to May 10, 14 EV71 cases were recorded this year. Below we summarised the epidemiological characteristics of EV71 cases recorded by the Department of Health since 1998. We define an EV71 case as a clinically compatible case that is laboratory confirmed by either isolation of EV71 or detection of EV71 by polymerase chain reaction (PCR) assay from a clinical specimen.

From 1998 to 2008 (up to May 10), we recorded 209 EV71 cases. Between 1 and 60 cases were reported annually, with the highest number in 1998 (Figure 1). EV71 infection occurs throughout the year but more commonly during the summer months from May to July (Figure 2). Infants and young children were mostly affected with 93.8% (195) of the cases in children ≤12 years old. Overall, their ages were ranged from two months to 40 years (median: 3 years) with a male-to-female ratio of 1.5:1 (Figure 3).

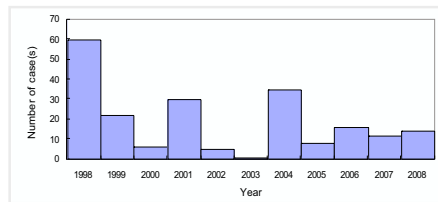


Figure 1 – Number of confirmed EV71 cases recorded between 1998 and 2008 (up to May 10, 2008) (n=209).

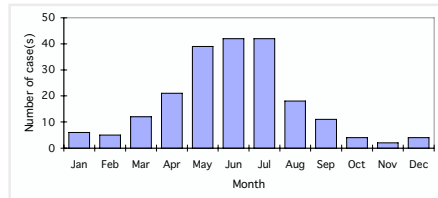


Figure 2 – Seasonality of confirmed EV71 cases by onset date (1998 - 2008 up to May 10, 2008) (n=206)*. ** excluded 3 cases with unknown onset date.

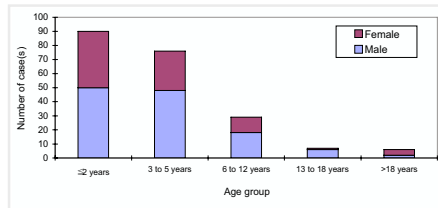


Figure 3 – Age distribution of confirmed EV71 cases by sex (1998 - 2008 up to May 10, 2008) (n=208)*. * excluded one case with unknown age.

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One hundred and ninety-eight patients (94.7%) presented with HFMD and the others presented with herpangina (4, 1.9%), respiratory infections/pneumonia (4, 1.9%) and meningitis/encephalitis (3, 1.4%). The most common symptom was maculopapular rash or vesicular lesions on upper limbs (83.3%), followed by vesicular lesions and ulcers in the oral cavity (77.4%), maculopapular rash or vesicular lesions on lower limbs (76.9%), fever (60.7%), cough (21.5%) and poor appetite (21.0%). EV71 was detected in the clinical specimens collected 0 to 21 days (median: 3) after onset of symptoms.

The hospitalization rate among children aged ≤ 12 years was significantly higher than those who were older than 12 years (53.8% vs 15.4%, $p=0.004$, by chi-square test). Overall, the median length of hospital stay was three days (range: 1 to 27 days). Thirteen patients (6.2%) had complications of meningoencephalitis (7), aseptic meningitis (2), pneumonia (2), encephalitis (1) or acute cerebellar ataxia (1). Except for a 34-year-old man who had meningoencephalitis, all were aged ≤ 12 years. Among them, we recorded two fatal cases, one occurred in 1999 in a 2-year-old boy with encephalitis and the other occurred in 2000 in a 5-year-old girl with meningoencephalitis and pulmonary oedema.

Majority (98.6%) of the cases were Chinese. Most acquired the infection locally (86.1%). Twenty-nine patients had travel history outside Hong Kong during their incubation period (28 cases stayed in the Mainland China and one case stayed in Taiwan).

During contact tracing and medical surveillance of contacts, we found that 81 cases (38.8%) had one or more family members developing symptoms of HFMD (range: one to three persons, median: one). Besides, 85 cases (40.7%) were associated with 48 concurrent school HFMD outbreaks, with 44 occurring in kindergartens/nurseries, three in primary schools and one in secondary schools. The size of these HFMD outbreaks ranged from 2 to 38 cases (median: 8).

In view of the recent challenging regional EV71 situation, we have stepped up surveillance for severe HFMD illnesses in children. We urge medical practitioners to report all HFMD-related complications in children. A hospitalised patient aged >1 month and ≤ 12 years and with either fever, HFMD or herpangina and with any one of the following complications, namely severe pneumonia, severe sepsis, shock, encephalopathy, myocarditis, acute flaccid paralysis and pulmonary edema/hemorrhage, should be notified to CHP as soon as possible.

Facts on EV71

EV71 is a non-enveloped RNA virus belonging to one of the serotypes of Enteroviruses. EV71 infection is generally a self-limited illness and the majority is clinically mild and recovers completely. It most commonly presents with HFMD which is characterized by fever, sores in the mouth and a rash with blisters over limbs. It can also cause herpangina or non-specific febrile illnesses. Rare but severe complications include meningitis, encephalitis, myocarditis, pericarditis, poliomyelitis-like paralysis and pulmonary edema/hemorrhage, leading to rapid deterioration and even death. EV71 is transmitted by the faecal-oral route, respiratory droplets or from person to person by direct contact with nose and throat discharges, saliva, and fluid from skin vesicles of infected persons. The incubation period ranges from three to seven days. Diagnosis is by viral culture or PCR assay performed on specimens such as respiratory secretions, stool, cerebrospinal fluid or vesicular fluid.

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family cluster affecting a 2-year-old boy and a 30-year-old domestic helper. No epidemiological linkage was identified among the remaining 21 cases and none of their household members reported similar symptoms.

Influenza activity update

Influenza activity in Hong Kong has declined from its peak in March. Disease activity is now stable and similar to the past few weeks. There were no confirmed influenza outbreaks in week 19 (ending May 10, 2008), as compared with 3 in the previous week. In week 18, the average consultation rates for ILI among sentinel private doctors and general outpatient clinics were 53.1 and 2.1 (per 1,000 consultations) respectively. Laboratory surveillance detected 9 influenza A (H1N1) viruses, 28 influenza A (H3N2) viruses and 19 influenza B viruses. Hospital admission rates due to influenza for children aged 0 to 4 years and for the elderly were stable. For details, please access the weekly "Flu Express" report, available at <http://www.chp.gov.hk/>.

RISK COMMUNICATION DIGEST

Press releases	#
Influenza	29
EV 71	10
Food poisoning	6
Dengue fever	4
Legionnaires' disease	3
Human myiasis	2
Respiratory infection	2
Bacillary dysentery	1
Hepatitis E	1
Letter to doctors	
EV71	2
HFMD	2
Influenza	2
Letter to institutions	
EV71	1
HFMD	1
Media interviews	
EV71	2
Media stand-ups	
EV71	3
Influenza	2
Press conferences	
EV71	1

Treatment is mainly supportive. Good personal and environmental hygiene is the most important measure to prevent EV71 infection. Also, infected children should refrain from schools or group activities until two weeks after fever has subsided and all the vesicular lesions have dried to prevent spread of the disease.

Recommendation on the use of Human papillomavirus (HPV) vaccine

Reported by DR TERENCE CHEUNG, Senior Medical Officer, Surveillance and Epidemiology Branch, CHP.

HPV has more than 200 types, of which about 40 are known to infect human mucosal surfaces including anogenital epithelium. While most HPV infections are subclinical, some types can lead to cervical cancer in women. HPV can be categorized into high risk and low risk types according to their oncogenic potential. High risk types of HPV are known to be the cause of virtually all cervical cancer. Low risk types of HPV will not lead to cervical cancer but can cause low grade lesions such as warts in the anogenital tract.

In Hong Kong, cervical cancer is the ninth leading female cancer in year 2005 with several hundred of new cases every year. The annual deaths related to cervical cancer ranged from 100 to 150. HPV type 16 and 18 are the most commonly identified high-risk HPV (HR-HPV), accounting for about 70% of all cervical cancer. While persistent infection of HR-HPV is a prerequisite for the development of cervical intraepithelial neoplasia (CIN) III lesions and invasive cervical cancers, only a small portion of females who get HR-HPV infection will develop cervical cancer. Other risk factors of cervical cancer include sexual activity at an early age, having multiple sex partners, and smoking.

HPV-6, HPV-11 are the commonest low-risk HPV (LR-HPV) that cause anogenital warts. Though only a small proportion of those who get the infection develop clinical disease, these two HPV account for more than 90% of all cases of anogenital warts.

Two prophylactic vaccines against HPV infection are currently available in the market. Gardasil™, developed by Merck and Co., Inc., is a quadrivalent HPV vaccine, targeting at HPV types 6, 11, 16 and 18. It is approved for use in females aged 9-26 years. Gardasil™ is administered in a series of 3 doses at 0, 2, 6 months. Cervarix™, developed by GSK, is a bivalent vaccine targeting at HPV types 16 and 18. It is approved for use in females aged 10 to 25 years and is to be administered at 0, 1, 6 months. A review of the published efficacy studies showed that protection among the HPV naïve women against lesions that were caused by the types of HPV covered by the vaccine was more than 90% during the study period (up to 4.5 years follow-up). Studies are ongoing to define the duration of protection and whether booster doses are required.

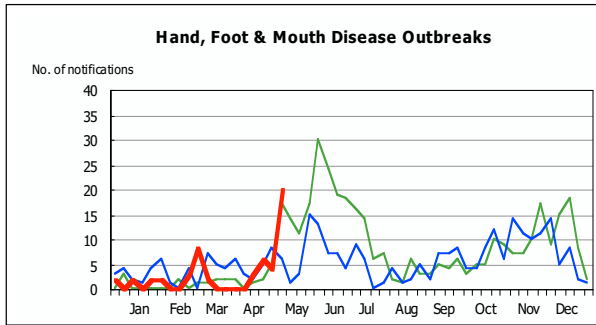
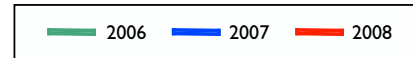
The common side effects of these vaccines include mild local reaction, such as erythema, pain and swelling, and systematic adverse effects such as fever, headache and nausea. The vaccine is contraindicated in persons with a history of immediate hypersensitivity to yeast or any vaccine components. Because of limited data, vaccination during pregnancy is not recommended.

In the United States (US), there have been concerns regarding the reportedly association of syncopal attacks and Guillain-Barré Syndrome (GBS) with Gardasil™. In August 2007, the US CDC reported its investigation findings after a review of the available data reported to the Vaccine Adverse Event Reporting System (VAERS). The CDC concluded that there was no need to change the existing recommendations as a causal relationship between the adverse effects and the vaccine could not be established.

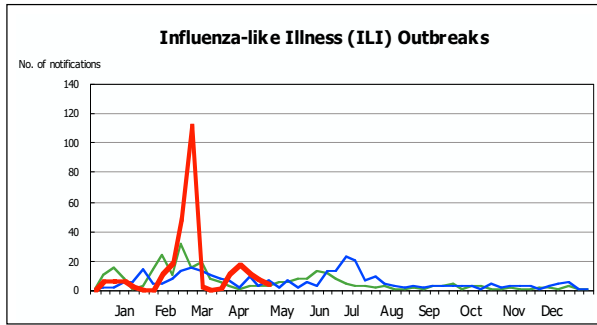
Although cross protection to a few other types of HPV is reported in the literature, the vaccines cannot protect many other types of HR-HPV that cause cervical cancer, therefore regular cervical screening according to the recommended screening programme will still be required to prevent cervical cancer among those who have been vaccinated. Members of the public should consult their doctors for advice on the use of the vaccine and the necessary cautions.

In February 2008, the CHP published a set of recommendations on the use of HPV vaccine, which was jointly developed by the Scientific Committee on Vaccine Preventable Disease and the Scientific Committee on AIDS and Sexually Transmitted Infections. The details can be found at www.chp.gov.hk/files/pdf/sas6_Recommendation_on_the HPV_vaccine_20080313.pdf.

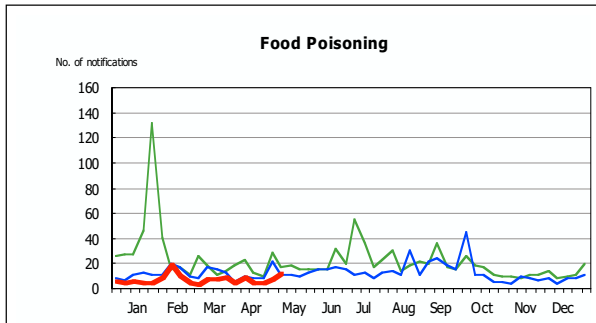
SUMMARY OF SELECTED NOTIFIABLE DISEASES AND OUTBREAK NOTIFICATIONS (WEEKS 18 - 19)



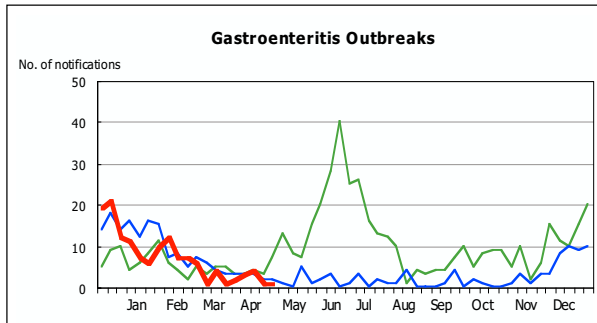
Week 16:	3	Week 18:	4
Week 17:	6	Week 19:	20



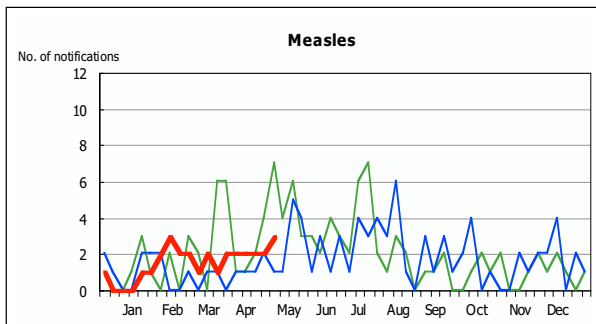
Week 16:	17	Week 18:	7
Week 17:	11	Week 19:	4



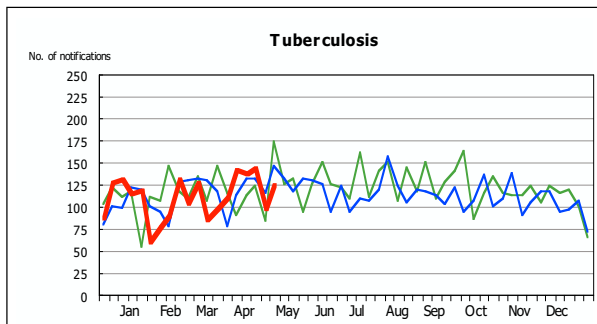
Week 16:	4	Week 18:	8
Week 17:	4	Week 19:	12



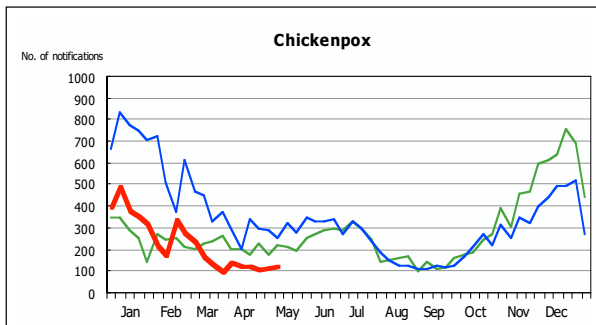
Week 16:	3	Week 18:	1
Week 17:	4	Week 19:	1



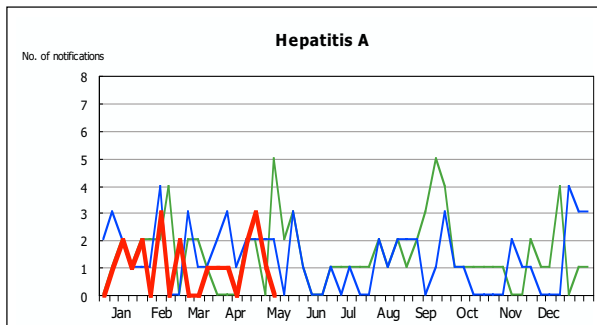
Week 16:	2	Week 18:	2
Week 17:	2	Week 19:	3



Week 16:	138	Week 18:	98
Week 17:	143	Week 19:	124



Week 16:	119	Week 18:	109
Week 17:	100	Week 19:	118



Week 16:	2	Week 18:	1
Week 17:	3	Week 19:	0

Data contained within this bulletin is based on information recorded by the Central Notification Office (CENO) and Public Health Information System (PHIS) up until May 10, 2008. This information may be updated over time and should therefore be regarded as provisional only.