

Communicable Diseases

WATCH



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FEATURE IN FOCUS

Update on rubella in Hong Kong

Reported by Fanny WS HO, Scientific Officer, Vaccine Preventable Disease Office, Surveillance and Epidemiology Branch, CHP.

Rubella was once endemic in Hong Kong with occasional peaks observed in the early years. Following the introduction of the anti-rubella vaccine (ARV) in 1978, annual number of hospital discharges due to rubella infection varied from 119 to 900 cases during 1979-1993. The disease was made notifiable in 1994, and since then annual notifications fluctuated from eight cases in 1994 to a high of 4 958 cases in 1997 (Figure 1).

Despite a spike in rubella cases in 2000, case count continued to decline and remained low in recent years. No rubella cases have been recorded so far in 2017. For the past five years from 2012 to 2016, a total of 98 rubella cases have been recorded, with annual notifications ranging from three to 44 cases (0.04-0.61 per 100 000 population) (Figure 2). While majority of the cases were locally acquired infection, nine had history of travel outside Hong Kong including Mainland China (4), India (2), Indonesia (1), Maldives (1), both Vietnam and Korea (1) during their incubation period. Rubella outbreak was uncommon with only a small cluster of two cases within the same household reported in 2012.

Over half (53%) of these rubella cases were laboratory-confirmed with positive serological test for rubella IgM antibody, isolation of rubella virus or positive reverse transcription-polymerase chain reaction (RT-PCR) for rubella virus in clinical specimens. More males (57%) than females were affected. The age of the cases ranged from six months to 63 years (median: 26 years). Sixty-one cases (62%) had never received or unknown history of rubella vaccination, while four other cases (4%) were less than one year old and had not reached the recommended age for vaccination.

Two rubella cases (2%) reported in 2012 were pregnant at gestation 18 and 25 weeks at the time of diagnosis. One of them (18 weeks gestation) with unknown vaccination status returned to Mainland China for delivery and the outcome was unknown, whilst the other pregnant case (25 weeks gestation), also with uncertain vaccination history, had a normal delivery in Hong Kong. The only three cases of

Rubella, commonly known as "German measles", is a highly communicable viral infection characterised by fever, rash, lymph node swelling and respiratory symptoms. Although rubella infection is often mild in young children, older children and adults are more likely complicated with arthritis, encephalitis and orchitis. Infection in early pregnancy, especially during the first trimester, may result in miscarriage, stillbirth or congenital rubella syndrome (CRS) with severe birth defects such as deafness, cataracts, congenital heart disease and mental retardation.

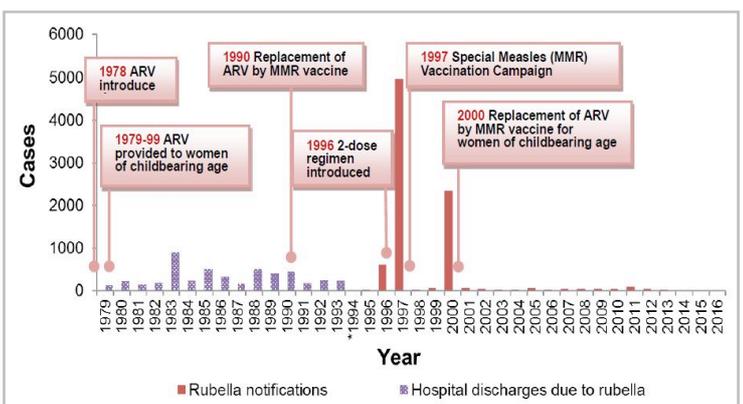


Figure 1 - Hospital discharges due to rubella and rubella notifications in Hong Kong, 1979-2016. (*Note: Rubella became a notifiable disease in 1994.)

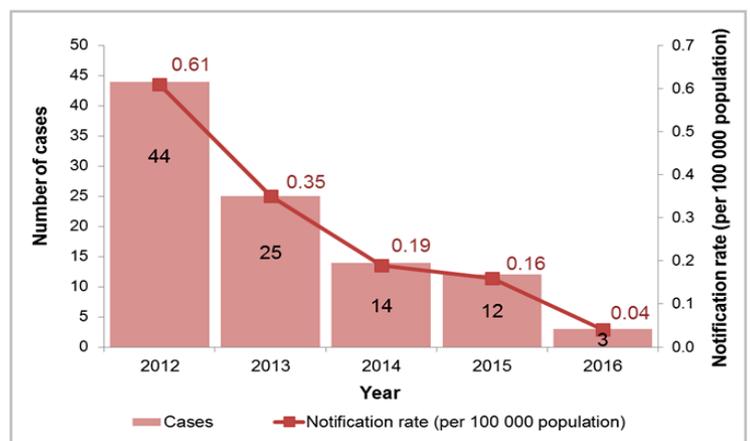


Figure 2 - Number of rubella cases and notification rates in Hong Kong, 2012-2016.

congenital rubella syndrome during the period were reported in 2012, all affecting babies whose mothers were born in Mainland China with either uncertain or no history of rubella vaccination¹.

In Hong Kong, rubella vaccination was incorporated into the Childhood Immunisation Programme (CIP) in 1978. An anti-rubella vaccine was administered in the early years, and later replaced by the measles, mumps & rubella (MMR) combined vaccine since 1990. Currently, two doses of MMR vaccine are given to children at age one and Primary One respectively. Rubella vaccination is also provided to women of childbearing age from 1979 onwards. Following the introduction of varicella vaccine in July 2014, the measles, mumps, rubella and varicella vaccine (MMRV) will replace the second dose of MMR vaccine when the cohort of children having received the first dose of varicella vaccine under the CIP reaches Primary One (school year of 2018/19 earliest). Uptake of rubella-containing vaccine (RCV) has remained high at over 95% for children aged two to five years as shown in the 2015 Immunisation Coverage Survey. Seroprevalence rates of rubella virus antibodies were at least 80% or above in both sexes and all age groups in 2014 and over 85% in antenatal serum specimens from all age groups of pregnant women in 2016.

Although rubella infection is usually uncomplicated, infection in nonimmune women during early pregnancy can lead to serious outcomes in developing foetus. Childbearing age women who are not immunised should check their immunity status before pregnancy and receive rubella vaccine accordingly. Apart from active immunisation, maintaining personal and environmental hygiene is important in preventing infection and spread of rubella. For more information on rubella and MMR vaccination, please visit the CHP website: <http://www.chp.gov.hk/en/content/9/24/40.html>.

¹The three babies, aged from six days to one month, presented with complications such as pneumonia, meningoencephalitis and congenital heart defects.

Update on amoebic dysentery in Hong Kong, 2007-2017

Reported by Ms Doris CHOI, Scientific Officer, Enteric and Vector-borne Disease Office, Surveillance and Epidemiology Branch, CHP.

Amoebic dysentery is an intestinal infection caused by the protozoan parasite *Entamoeba histolytica* (*E. histolytica*). It occurs worldwide but is more common in countries or areas with poor sanitation, particularly in the tropics¹. It is also more common in travellers to and immigrants from tropical places with poor sanitary conditions, people who live in institutions with poor sanitary condition and men who have sex with men². The disease is transmitted through faecal-oral route, either directly from person-to-person contact or indirectly by eating or drinking food or water contaminated with faecal matter. About 10% to 20% of people who are infected with *E. histolytica* are symptomatic². The incubation period is usually two to four weeks but may range from a few days to several months³. While symptoms are often mild and include diarrhoea and frequent and small-volume of loose stool with blood, complications including fulminant colitis, peritonitis and extraintestinal infection may occur. The commonest extraintestinal infection is liver abscess which presents with fever and right upper quadrant pain. Treatment includes appropriate use of antibiotics.

In Hong Kong, amoebic dysentery is a notifiable infectious disease under the Prevention and Control of Disease Ordinance (Cap 599). From 2007 to 2017 (as of July 31), the Centre for Health Protection of the Department of Health recorded a total of 63 confirmed cases with the annual number of cases ranging from two to 11 (median: five cases). More cases were recorded in 2014 and 2017 with 11 and ten cases respectively (Figure 1). In this article, we summarise the epidemiological characteristics of the 63 cases.

Cases of amoebic dysentery were recorded all year round. Most of the cases acquired the infection locally (n=45, 71.4%) while one-fifth (n=13, 20.6%) were imported from Mainland China (2), Australia (1), Cambodia (1), India (1), Indonesia (1), Japan (1), Malaysia (1), Nepal (1), the Philippines (1), the United States (1) and multiple countries (2) respectively. Five patients (7.9%) had stayed in Hong Kong and overseas during the incubation period, so the place of acquiring the infection could not be ascertained (Figure 1). All cases were sporadic. All patients affected were adults with age ranging from 20 to 76 years (median: 46 years) and the age groups between 35 and 54 years were predominantly affected. Similar to that reported in literature^{4,5}, the majority were males (n=55, 87.3%) (Figure 2)

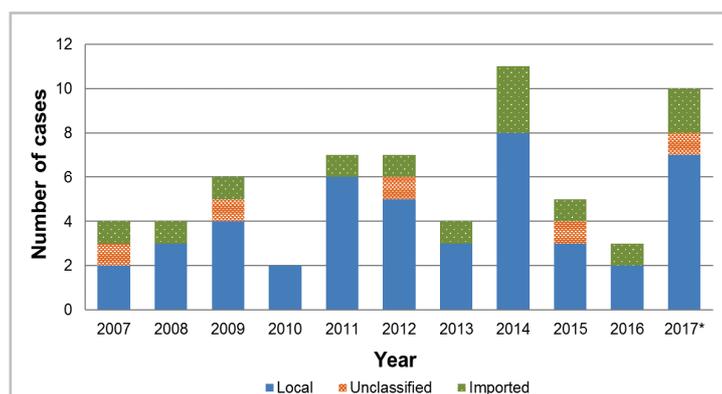


Figure 1 - Annual number and importation status of amoebic dysentery, 2007 to 2017 (*as of July 31, 2017) (n=63).

but the exact reason was not clear. Sixty-four percent of the patients (n=40) enjoyed good past health while 30.2% (n=19) had underlying medical illness and the past health of four patients was unknown (6.3%).

Among the 63 patients, bloody diarrhoea (n=43, 68.3%) was the most common clinical presentation, followed by non-bloody diarrhoea (n=40, 63.5%), abdominal pain (n=37, 58.7%) and mucus in stool (n=33, 53.0%). One patient developed liver abscess. Most of the patients received endoscopic examination (n=51, 81.1%) and intestinal ulcer was found in 40 (78.4%) of them. More than half of them (n=36, 57.1%) required hospitalisation with length of stay ranged from one to 99 days (median=3.5 days). Two patients required intensive care; one was due to complication of colonoscopy with bowel perforation and the other was due to gangrenous colitis followed by multiple organ failure and shock. No fatal cases were recorded.

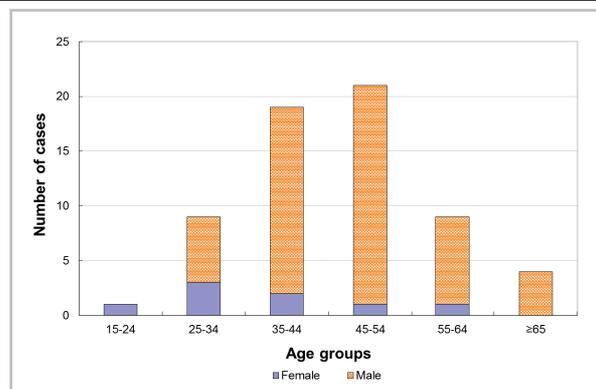


Figure 2 - Number of cases of amoebic dysentery by gender and age groups of patients, 2007-2017* (*as of July 31, 2017) (n=63).

Although the sources of infection could not be ascertained for most cases, a number of known risk factors reported in literature were identified from some cases, such as drinking well/stream water or unboiled tap water (n=4), consuming raw vegetables in India (n=1), residents of a residential care home for the disabled (n=2) or had oral-anal sex (n=1).



To prevent amoebic dysentery, members of the public are advised to adopt the following measures:

- Maintain good personal, food and environmental hygiene. Adopt the 5 Keys to Food Safety in handling food to prevent foodborne diseases:
 1. Choose (Choose safe raw materials)
 2. Clean (Keep hands and utensils clean)
 3. Separate (Separate raw and cooked food)
 4. Cook (Cook thoroughly)
 5. Safe Temperature (Keep food at safe temperature);
- Wash hands thoroughly with liquid soap and water before handling food or eating, and after using toilet or handling faecal matter;
- Drink only boiled water from the mains or bottled drinks from reliable sources;
- Avoid drinks with ice of unknown origin;
- Purchase fresh food from hygienic and reliable sources. Do not patronise illegal hawkers;
- Eat only thoroughly cooked food;
- Wash and peel fruit by yourself and avoid eating raw vegetables;
- Exclude infected persons and asymptomatic carriers from handling food and from providing care to children, elderly and immunocompromised people; and
- Refrain from work or school, and seek medical advice if suffering from gastrointestinal symptoms such as diarrhoea.

For more information on food safety, please visit the website of Centre for Food Safety:
<http://www.cfs.gov.hk/eindex.html>.

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NEWS IN BRIEF

Two sporadic cases of necrotising fasciitis caused by *Vibrio vulnificus*

In mid-August 2017, the Centre for Health Protection (CHP) recorded two sporadic cases of necrotising fasciitis caused by *Vibrio vulnificus*.

The first case was a 55-year-old male with underlying illnesses. He presented with erythema and swelling over left index finger and both ankles on August 9, followed by fever on August 10. He attended the Accident and Emergency Department of a public hospital on August 10 and was admitted on the same day. Excisional debridement of wounds was performed on August 11. The operative diagnosis was necrotising fasciitis. Tissue specimens collected from his left hand, left knee and right ankle, pus swab of his left arm and blood taken on August 11 all grew *Vibrio vulnificus*. He was put under intensive care after operation. His condition deteriorated and he succumbed on August 12. According to his family member, he had sustained left index finger injury while preparing meal on August 9, otherwise no history of injury to other parts of body could be recalled. There was no known exposure to sea water or seafood during incubation period.

The second case was a 65-year-old female with underlying illnesses. She presented with fever and painful swelling of right middle finger on August 15 and was admitted to a public hospital the next day. Incision and drainage with wound exploration was performed on August 16 and amputation of right middle finger was performed on August 17. The operative diagnosis was necrotising fasciitis. Her right middle finger tissue collected on August 16 grew *Vibrio vulnificus*. She was treated with antibiotics and her condition was stable. She had visited wet market and had handled raw fish at home on August 13 but she reported no history of wound or injury.

Both cases had no recent travel history outside Hong Kong. Their home contacts remained asymptomatic.

A local sporadic case of leptospirosis

On August 22, 2017, CHP recorded a local sporadic case of leptospirosis affecting a 68-year-old female with pre-existing medical conditions. She presented with fever and nausea on July 15, 2017 and was admitted to a public hospital on July 19. Blood tests showed derangement of liver function. She was transferred to intensive care unit on July 28. She was treated with antibiotics and her condition improved. She was discharged on August 1. Paired sera on July 19 and August 14 showed more than four-fold increase in antibody titre against *Leptospira* by microscopic agglutination test. Epidemiological investigation revealed that the patient kept a dog and farmed in her backyard during the incubation period. She occasionally saw rodents around her living area in Wun Yiu, Tai Po. She had no recent travel history. She denied any skin wounds. Her family members remained asymptomatic.

A sporadic confirmed case of brucellosis

On August 22, 2017, CHP recorded a confirmed case of brucellosis affecting an 85-year-old man with good past health. He presented with fever, cough, runny nose, dizziness and vomiting on July 19 and was admitted to a public hospital on the same day. He had persistent fever despite treatment with multiple antibiotics. His paired sera collected on August 10 and 16 showed four-fold rise in antibody titre against *Brucella abortus* and *Brucella melitensis*. His condition subsequently deteriorated and he died on August 18. He had no recent travel history. No risk factor was identified. His home contacts were asymptomatic.

CA-MRSA cases in July 2017

In July 2017, CHP recorded a total of 114 cases of community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) infection, affecting 73 males and 41 females with ages ranging from 15 days to 83 years (median: 34 years). Among them, there were 90 Chinese, 10 Filipinos, 4 Nepalese, 3 Pakistani, 2 Caucasian, 2 Indonesian, 1 Thai and 2 of unknown ethnicity.

One hundred and thirteen cases presented with uncomplicated skin and soft tissue infections while the remaining case had severe CA-MRSA infection. The severe case affected an 83-year-old man with underlying illnesses. He presented with fever, left lower limb painful swelling and decreased general condition since June 20. He was admitted to a public hospital on June 23 and was diagnosed to have left lower limb necrotising fasciitis with multiple excisional debridement of wound done. Tissue sample collected from his left foot on June 24 was cultured positive for CA-MRSA. He was treated with antibiotics and his condition was stable. His home contact remained asymptomatic.

Besides, two household clusters, with each affecting two persons, were identified. No cases involving healthcare worker were reported in July.

Scarlet fever update (July 1, 2017 – July 31, 2017)

Scarlet fever activity in July decreased as compared with that in June. CHP recorded 177 cases of scarlet fever in July as compared with 223 cases in June. The cases recorded in July included 106 males and 71 females aged between eight months and 40 years (median: six years). There were four institutional clusters occurring in kindergartens, with each affecting two children. No fatal cases were reported in July.