

## A cluster of HIV infections in Hong Kong

In 2005, a **CLUSTER OF HIV-1 SUBTYPE B INFECTIONS** was detected in Hong Kong from a molecular study. As of December 2005, upon testing of newly reported and prior blood samples, twenty individuals have been identified to fall within the cluster.

The HIV genetic materials isolated from these cases displayed very similar nucleotide sequence with difference less than 2% on average. From the laboratory analysis, these infections were suspected to be linked and have occurred over a relatively short time period.

These cases have been reported to the Department of Health's HIV reporting system between fourth quarter of 2003 and fourth quarter 2005. All were men and belonged to the age range 21-60 years. Fifteen were Chinese and 5 non-Chinese. Risk factors for HIV infection were reported as unprotected homosexual/bisexual contact in 15 cases. Risk factors for some cases could not be determined according to information given by reporting doctors.

Further epidemiological investigations have been conducted for control of spread of infection beyond the cluster. As of 14 February 2006, 10 of the 20 cases have been investigated. **PRELIMINARY RESULTS** suggested that all infections have had occurred in Hong Kong. **Unprotected sex with other men** (reported in 9 of 10 cases), use of **internet as platform to know sexual partners** (7/10) and **use of soft drugs during sexual activity** (4/10) were risk factors identified. **Non-regular, non-commercial sex partners** were suspected to be the source of infection in eight cases, two of whom also suspected their regular partners could be a possible source. Unprotected

oral and anal sex with other men were both identified to be the risk exposures. Most cases did not recall potential partners at risk or had lost contact with them thus rendering partner counselling and testing difficult to be arranged.

The Department of Health has communicated the preliminary findings with community partners for planning strengthening of prevention activities targeting men having sex with men (MSM) in Hong Kong. A press release on the preliminary findings and promotion of safer sex practice and HIV testing was made on 14 February 2006 with wide media coverage received.

Notwithstanding the limitations, the preliminary but neither exclusive nor exhaustive findings provide evidence that on-going HIV infections among MSM occur through unprotected sexual contact in Hong Kong. Targeted HIV prevention efforts have to be strengthened among this vulnerable community.

### Summary of a cluster of HIV infection

- ◆ Persons: 20 men aged 21 - 60, 15 Chinese, 5 non Chinese
- ◆ Estimated period of infection: mid 2003 to mid 2005
- ◆ Place: Hong Kong

### Risk factors identified

- ◆ Having unprotected sex (anal sex and possibly oral sex) between men who have sex with men
- ◆ Using internet as the platform to know sexual partners
- ◆ Having sex with non-regular, non-commercial (casual) partners
- ◆ Using soft drugs during sexual activities

## FREQUENTLY ASKED QUESTIONS

### ◆ How was the cluster detected?

The Hong Kong Department of Health and University of Hong Kong initiated a pilot study on HIV-1 molecular epidemiology in Hong Kong in 2000. Samples left over from those tested positive for HIV infection at the Government Public Health Laboratory are genotyped to identify the strain of the virus. Further analysis is also performed to examine the genetic sequence of the virus and study the variation and relationship among the strains identified, clearly after a time lag from the HIV diagnosis. The virus genetic makeup of the people involved in the cluster was extremely similar and appeared the first time in Hong Kong to involve a large number of individuals.

### ◆ Why do we track HIV strains?

Tracking HIV subtypes performs several key public health functions. It provides a systematic method for evaluating the movements of various strains across geographic regions and introduction of new strains, and can prompt investigation of unusual strain or transmission pattern. It enhances accuracy of tests for HIV diagnosis and patients monitoring because some of the tests may perform differently in different strains. Knowledge of genetic makeup of HIV also provides useful information to global effort to development of effective and appropriate vaccines for HIV infection. Determining the distribution of HIV-1 subtypes has been included as a standard surveillance mechanism in countries like Canada, United Kingdom and United States.

### ◆ How many cases of HIV infection have their strain identified and analyzed in Hong Kong?

A total of 949 HIV cases reported up to June 2005 have been successfully subtyped. Seventy-eight percent were cases reported between 2002 and June 2005, representing 83% of all HIV infections with different risk

factors and demographic characteristics reported during the same period. Cases that are not Chinese, with undetermined risk factor for HIV transmission, or have not attended any of the public HIV clinics are significantly less likely to have the subtype result available.

### ◆ What are the subtypes commonly identified in Hong Kong?

HIV is broadly divided into HIV-1 and HIV-2 and HIV-1 causes the global AIDS epidemic. HIV-1 displays extensive and increasing genetic diversity and is further classified into groups, subtypes and recombinant forms. About 30 distinct strains are circulating in different parts of the world. The most common HIV-1 subtypes of the reported cases in Hong Kong are CRF\_01AE and subtype B, accounting for three quarters of all cases. Twelve different strains accounted for the remaining quarter of cases. Distribution of subtypes varied with gender, ethnicity and risk for infection and the subtypes identified in Hong Kong over the years are getting more diversified.

### ◆ Do we have other clusters of HIV infection ever detected in Hong Kong?

In fact, more than 30 clusters of HIV infections have been detected over past years. Some of these belonged to couples who are known to be regular sexual partners or mother-child pairs, while others involved non-locals who reported to have acquired HIV infection through injecting drug use outside Hong Kong

### ◆ What does the identification of cluster mean to HIV situation in Hong Kong?

This cluster of 20 HIV infection indicated extended and intensified spread of HIV infections, in contrast to isolated transmission. Condom should always be used for HIV prevention. For infected patients or people at risk of infection, testing for HIV can facilitate diagnosis and access to appropriate management.



Other publications on HIV/AIDS situation in Hong Kong

*Annual HIV Surveillance Report*

*Quarterly STD/AIDS Update*

Available at [www.aids.gov.hk](http://www.aids.gov.hk)

Please contact us for more information on HIV/AIDS in Hong Kong

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