

The TB/HIV Registry

Surveillance Report on TB/HIV co-infection in Hong Kong (2018)

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TB-HIV Registry

A total of 29 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2018. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2018 was 706 (Table 1).

Information on TB as a primary AIDS-defining illness is available in 24 out of 29 cases reported to the TB-HIV Registry in 2018. Of these 24 cases, 13 (54.2%) had TB as a primary AIDS-defining illness (Table 2). The proportion of patients with pulmonary TB and a low CD4 count below 200/ μ L was slightly higher than extra-pulmonary TB as primary AIDS-defining illness in 2018.

The pre-treatment drug susceptibility pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2018 is shown in Table 3. Eighteen patients reported to the TB-HIV Registry had a positive sputum and/or other specimen culture in 2018. Sixteen (88.9%) had disease due to *Mycobacterium tuberculosis* with favourable susceptibility pattern. Two had bacillary resistance to streptomycin. One additional patient with negative culture had RR-TB based on molecular test. Among all the 496 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2018, 9 (1.8%) had MDRTB. This figure is slightly higher than the MDRTB rate of around 1% in general population. There is no XDR-TB cases detected among the reported TB-HIV cases so far. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 29 patients seen at chest clinics and/or SPP in 2018. The characteristics of these patients are similar to those of the 2017 cohort. The median CD4 count was 110 / μ L at time of TB diagnosis. Extra-pulmonary involvement is common, with nearly two-third of the patients having TB involving one or more extra-pulmonary sites.

Table 1. Total number of TB-HIV cases reported to TB-HIV Registry, all sources (1996-2018)*

| Year | Number of TB-HIV cases** |
|-------|--------------------------|
| 1996 | 22 |
| 1997 | 19 |
| 1998 | 22 |
| 1999 | 25 |
| 2000 | 24 |
| 2001 | 34 |
| 2002 | 22 |
| 2003 | 28 |
| 2004 | 35 |
| 2005 | 42 |
| 2006 | 50 |
| 2007 | 56 |
| 2008 | 50 |
| 2009 | 38 |
| 2010 | 25 |
| 2011 | 28 |
| 2012 | 20 |
| 2013 | 21 |
| 2014 | 25 |
| 2015 | 24 |
| 2016 | 36 |
| 2017 | 31 |
| 2018 | 29 |
| Total | 706 |

* Including cases reported from all sources (chest clinics, SPP, HA hospitals and private centres).

** Some of the figures in the table for the previous years have been updated after (1) taking out some mismatched cases and cases with a revised diagnosis (2) adding some cases which were previously unreported.

Table 2. TB as primary AIDS-defining illness among 520 cases reported to chest clinics and/or SPP (1996-2018)*

| Year | TB as primary AIDS-defining illness | | | | | Total |
|-------|-------------------------------------|--|----------|-----|---------------------------|-------|
| | Yes | | | No | Information not available | |
| | Extra-pulmonary | Pulmonary and TB cervical lymph node with CD4 < 200 µL | Subtotal | | | |
| 1996 | 1 | 7 | 8 | 1 | 0 | 9 |
| 1997 | 2 | 3 | 5 | 2 | 0 | 7 |
| 1998 | 6 | 3 | 9 | 3 | 0 | 12 |
| 1999 | 7 | 6 | 13 | 3 | 0 | 16 |
| 2000 | 3 | 4 | 7 | 5 | 0 | 12 |
| 2001 | 4 | 6 | 10 | 7 | 0 | 17 |
| 2002 | 4 | 9 | 13 | 2 | 0 | 15 |
| 2003 | 1 | 10 | 11 | 5 | 0 | 16 |
| 2004 | 5 | 7 | 12 | 11 | 0 | 23 |
| 2005 | 8 | 14 | 22 | 7 | 0 | 29 |
| 2006 | 9 | 19 | 28 | 7 | 0 | 35 |
| 2007 | 10 | 17 | 27 | 8 | 2 | 37 |
| 2008 | 14 | 13 | 27 | 6 | 0 | 33 |
| 2009 | 9 | 3 | 12 | 6 | 5 | 23 |
| 2010 | 4 | 10 | 14 | 5 | 3 | 22 |
| 2011 | 6 | 8 | 14 | 8 | 6 | 28 |
| 2012 | 4 | 9 | 13 | 5 | 2 | 20 |
| 2013 | 7 | 10 | 17 | 1 | 3 | 21 |
| 2014 | 7 | 8 | 15 | 9 | 1 | 25 |
| 2015 | 7 | 5 | 12 | 8 | 4 | 24 |
| 2016 | 8 | 8 | 16 | 17 | 3 | 36 |
| 2017 | 8 | 6 | 14 | 12 | 5 | 31 |
| 2018 | 5 | 8 | 13 | 11 | 5 | 29 |
| Total | 139 | 193 | 332 | 149 | 39 | 520 |

* Some of the figures in the table for the previous years have been updated. Of all the cases reported to the TB-HIV Registry from 1996 to 2018, 520 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 520 cases.

Table 3. Pre-treatment drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources (1996-2018)*

| Year | Susceptible to SHRE | Any resistance** (non-MDR/XDR) | RR/MDR | XDR | Total number of culture positive cases |
|-------|---------------------|--------------------------------|-------------|-----|--|
| 1996 | 7 | 1 | 0 | 0 | 8 |
| 1997 | 5 | 1 | 0 | 0 | 6 |
| 1998 | 13 | 1 | 0 | 0 | 14 |
| 1999 | 16 | 4 | 1 | 0 | 21 |
| 2000 | 13 | 2 | 0 | 0 | 15 |
| 2001 | 23 | 5 | 0 | 0 | 28 |
| 2002 | 11 | 3 | 1 | 0 | 15 |
| 2003 | 18 | 3*** | 0 (+1)*** | 0 | 21 |
| 2004 | 20 | 6 | 0 | 0 | 26 |
| 2005 | 29 | 5 | 0 | 0 | 34 |
| 2006 | 32 | 3 | 0 | 0 | 35 |
| 2007 | 30 | 7 | 1 | 0 | 38 |
| 2008 | 30 | 3 | 0 | 0 | 33 |
| 2009 | 22 | 7 | 0 | 0 | 29 |
| 2010 | 12 | 2 | 0 | 0 | 14 |
| 2011 | 12 | 4 | 0 | 0 | 16 |
| 2012 | 13 | 2 | 1 | 0 | 16 |
| 2013 | 13 | 5 | 0 | 0 | 18 |
| 2014 | 11 | 7 | 0 | 0 | 19**** |
| 2015 | 15 | 1 | 1 (+1)***** | 0 | 19**** |
| 2016 | 27 | 3 | 0 | 0 | 30 |
| 2017 | 19 | 2 | 2***** | 0 | 23 |
| 2018 | 16 | 2 | 0***** | 0 | 18 |
| Total | 407 | 79 | 7 (+2) | 0 | 496**** |

* Of all the cases reported to the TB-HIV Registry from 1996 to 2018, 496 had a positive culture (sputum or other specimens). The table is compiled basing on data of these 496 cases.

** Any pattern of drug resistance except MDR (i.e. resistant to at least both H and R) and XDR (i.e. resistance to any fluoroquinolones, and at least one of the injectable drugs, in addition to MDR).

*** One of these patients had extremely poor treatment adherence, developed acquired resistance during anti-TB treatment and became MDR-TB.

**** Drug susceptibility result unknown in one patient in 2014 and two patients in 2015 with positive culture.

***** One patient's pre-treatment sputum culture showed MTB with favourable drug susceptibility pattern; sputum culture at 3 month showed MDRTB, which might represent mixed population or acquired drug resistance

***** One case had negative sputum culture but molecular test showed rpoB gene mutation associated with rifampicin resistance

***** One case had negative culture but BAL molecular test showed rpoB gene mutation associated with rifampicin resistance

Table 4: Characteristics of 29 TB-HIV cases reported from chest clinics and SPP in 2018

| | Number | Proportion |
|--|------------------------|------------|
| Age distribution | | |
| 0 to 19 | 0 | 0.0% |
| 20 to 39 | 13 | 44.8% |
| 40 to 59 | 12 | 41.4% |
| 60+ | 4 | 13.8% |
| Sex distribution | | |
| Male | 19 | 65.5% |
| Female | 10 | 34.5% |
| Ethnicity | | |
| Chinese | 19 | 65.5% |
| Asians, non-Chinese | 6 | 20.7% |
| African | 3 | 10.3% |
| Others | 1 | 3.4% |
| Case category | | |
| New case | 22 | 75.9% |
| Relapse | 4 | 13.8% |
| Treatment after default | 0 | 0.0% |
| Failure of previous treatment | 0 | 0.0% |
| Others | 0 | 0.0% |
| Unknown | 3 | 10.3% |
| TB as a primary AIDS defining illness* | | |
| Yes | 13 | 54.2% |
| No | 11 | 45.8% |
| CD4 count at time of co-infection (median, IQR)** | 110 (50-202) / μ L | |
| Anti-retroviral therapy at time of co-infection | | |
| Yes | 8 | 27.6% |
| No | 21 | 72.4% |
| Presence of extra-pulmonary TB | | |
| Yes | 19 | 65.5% |
| No | 10 | 34.5% |
| Extent of Respiratory TB*** | | |
| Minimal | 9 | 45.0% |
| Moderate | 4 | 20.0% |
| Extensive | 7 | 35.0% |
| Sputum bacteriological status (pre-treatment)**** | | |
| Smear + culture + | 4 | 17.4% |
| Smear - culture + | 8 | 34.8% |
| Smear + culture - | 0 | 0.0% |
| Smear - culture - | 11 | 47.8% |
| Drug resistance pattern (pre-treatment) (based on sputum and/or other specimen culture)***** | | |
| Susceptible to SHRE | 16 | 88.9% |
| Resistant to streptomycin alone | 2 | 11.1% |
| Resistant to rifampicin alone | 0***** | 0.0% |
| MDR | 0 | 0.0% |
| XDR | 0 | 0.0% |

* Information on TB as primary AIDS-defining illness unknown in 5 patients.

** Information on CD4 count unknown in 2 patients.

*** 20 out of 29 cases had lung parenchymal lesion on CXR.

**** Sputum test not performed/incomplete in 6 cases; 12 out of remaining 23 cases had a positive sputum culture

***** 18 of 29 cases had a positive sputum and/or other specimen culture.

***** One patient who had negative sputum culture had BAL molecular test showing rpoB gene mutation associated with rifampicin resistance