**C4 - Risk factors for HIV/AIDS**

## MOPE0359 - Molecular epidemiology of HIV-1 in Taiwan: emergence of CRF07_BC among injecting drug users in Taiwan

*Y.-M. Chen[1], Y.-H. Huang[2], Y.-J. Chen[2], S.-F. Lai[1], Y.-C. Lan[1], J.-Y. Yang[3], H.-S. Kuo[3]*

[1]National Yang-Ming University, AIDS Prevention and Research Center, Taipei, Taiwan, Republic of China, [2]National Yang-Ming University, Institute of Public Health, Taipei, Taiwan, Republic of China, [3]Center for Disease Control of Taiwan, Taipei, Taiwan, Republic of China

**Background:** The number HIV-1 infection has increased rapidly in Taiwan in 2004 and 2005. Compared to only 11% in 2003, the rates of increase in 2004 and 2005 were 77% and 123%, respectively. More than 70% of new HIV-1/AIDS cases reported to CDC in 2005 were injecting drug users (IDUs). The goals of this study were
a.) to investigate the causes of this explosive spread of HIV-1 in IDUs, and
b.) to study the HIV-1 subtypes and associated risk factors among IDUs .
**Methods:** Blood samples and questionnaires were collected from 362 HIV-1-infected inmates from 4 detention centers and 2 prisons in 2004 and 2005. HIV-1 subtypes were determined by PCR, DNA sequencing and phylogenetic analysis of pol and env genes. Recent seroconverters were determined using the Calypte HIV-1 BED incidence EIA. Ninety-nine CRF07_BC-infected IDUs and 99 HIV-1 negative IDUs matched by age, gender and prisons were recruited for a case control study.
**Results:** 97% (351/362) HIV-1-infected inmates participated in this study were IDUs. The rates of recent seroconverters among HIV-1 positive inmates were 40% (93/235) and 26% 34/130) for detention centers and prisons, respectively. Among 324 male IDUs, 297 (92%) were infected with CRF07_BC, 19 (6%) with subtype B and 8 (2%) with CRF_01AE. All of 27 female IDUs were infected with CRF07_BC. Phylogenetic analysis showed that the Taiwanese CRF07_BC strains clustered with those CRF07_BC originated from Xinjiang and Yunnan provinces, China. Multivariate analysis indicated that the odds ratios (95% confidence interval) for sharing heroin diluents (and container), sharing needles, or sharing both diluents and needles were 8.2 (2-33), 23.5 (4.9-111), and 51.7 (14.7-181), respectively.
**Conclusions:** CRF07_BC from Yunnan Province, mainland China has become the predominant HIV-1 strain among IDUs in Taiwan. Besides sharing needles, sharing diluents or/and containers is an important risk factor that should be emphasized in the harm reduction program.