up 2 years for active TB disease. ELISPOT was done in ESRD patients only.

**Results:** Compared to the healthy controls, a high prevalence of LTBI was found in the ESRD patients by TST (62.5%, 95% confidence interval [CI] 43.7–78.9), QFT-G (40.0%, 95% CI 22.7–59.4), and ELISPOT (46.9%, 95% CI 29.1–65.3). Agreement was moderate (kappa = 0.53) for QFT-G and ELISPOT but only slight between TST and QFT-G (κ = 0.25) and fair between TST and ELISPOT (κ = 0.32). ESRD (p = 0.03) and diabetes mellitus (p = 0.04) were significant risk factors for QFT-G positivity on the multivariable analysis. The overall rate of active TB was 1.66 cases per 100 person-years (pys), with the rate higher in patients with ESRD (3.53 per 100 pys) and those with positive (3.40 per 100 pys) and indeterminate QFT results (30.16 per 100 pys), although the difference was not statistically significant. Sensitivity, specificity, and positive and negative predictive values of QFT-G for active TB was 100%, 62.1%, 8.3% and 100%.

**Conclusion:** This pilot study is the first to compare QFT-G, ELISPOT, and TST in ESRD patients on hemodialysis and demonstrates a high prevalence of LTBI in this population. In our study, the QFT-G was the more accurate method for identifying those truly infected with Mycobacterium tuberculosis, even in BCG-vaccinated individuals.

### Concurrent Session 14 – AIDS/STD

**CS14-01 Toward Timely HAART: Risks and Benefits**

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**CS14-02 Interaction between Syphilis and HIV Infections**

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To study the interaction between syphilis and HIV infections to enhance detection of cases and improve clinical care for HIV-syphilis coinfected patients. A review of published literature showed syphilis is associated with increased risk for HIV sexual transmission and acquisition. HIV might shift the clinical manifestations of syphilis, rendering lesions more apparent, and accelerate the progression of syphilitic disease. Among HIV-infected persons, atypical and/or multiple chancres can occur or primary syphilitic lesions might be absent. Secondary syphilis, particularly acute syphilitic meningitis, can resemble acute primary HIV infection: constitutional symptoms with non-focal CNS signs and symptoms and CSF abnormalities (lymphocytic pleocytosis and mildly elevated CSF protein), are common. Responses to non-treponemal serologic tests (VDRL, RPR) can be atypical (higher, lower, delayed) amongst HIV-infected patients with early syphilis. There is, however, little data that treponemal tests (ELA,FTA,TPPA) perform differently. On the other hand, it is unknown whether there is difference in prognostic significance of CSF abnormalities between HIV-infected and noninfected persons. Some recommended CSF examination for all HIV-infected patients with syphilis regardless of stage, in particular for RPR > 1:32 or CD4 < 350 per uL. Penicillin remains treatment of choice for syphilis regardless of HIV status. Most HIV-infected persons with early syphilis respond to standard benzathine penicillin although some recommend two additional weekly benzathine penicillin injections. The benefit of latter approach remains unknown. Retreatment of early stage syphilis should be considered when there is sustained 4-fold increase in serum non-treponemal titres (SNT) after an initial reduction after treatment, or when there are persistent/recurrent clinical signs and symptoms. Some recommend treating early syphilis for those who do not have a 4-fold decrease in SNT at 6–12 months after treatment.

Occurrence of syphilis in HIV-infected patient is an indication of high-risk behaviour and should prompt intensive counseling, referral for behaviour intervention, screening and treatment for syphilis as well as for other sexually transmitted diseases.

**CS14-03 Emerging of HIV-1 Drug Resistance and Solutions in Thailand**

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Antiretroviral therapy (ART) for HIV-1 infected patients has been rapidly scaled up worldwide in the last decade. In Thailand, the national policy of providing free access to ART has been implemented since 2002. Successful outcomes are not always observed and HIV-1 drug resistance is a major cause of treatment failure. The emergence and transmission of drug-resistant HIV-1 infection inevitably follows the increasing use of ART, which reduces the efficacy of the first-line ART. This suggests that scaling up of access to ART in Thailand is becoming vulnerable to be at risk of the HIV-1 drug resistance problem. Both primary and secondary drug resistance have been observed. In Thailand, a recent published data has shown 2% of HIV-1 drug resistance among persons with recent infection, which increased from 0% in 2003 to 5.2% in 2006. All seven patients with viral resistance had sexual partner with low adherence and treatment failure with NNRTI-based regimen. This suggests that HIV-1 drug resistance was transmitted among couples. Intervention of prevention program, i.e. 100% condom campaign, needs to be re-strengthened and emphasized. The prevalence of primary resistance depends on the characteristics of study population especially duration of HIV-1 infection. Another study had found baseline antiretroviral drug resistance mutations in 4% of Thai HIV-1 infected patients with unknown duration of HIV-1 infection. Nevertheless, data of primary HIV-1 drug resistance in Thailand is still limited. A study to determine the prevalence and risk factors of primary HIV-1 drug resistance, using surveillance drug resistance mutations recommended for surveillance of transmitted HIV-1 drug resistance by WHO in 2009, is ongoing in Thailand. To date, the implementation HIV-1 resistance testing for treatment naive patients in Thailand is not currently feasible because of the high cost and cost-effectiveness issue. However, selected group of patients with high risk of primary HIV-1 drug resistance should be considered. Secondary HIV-1 drug resistance has become common in Thailand after rapid scaling up of ART. Resistance mutations to NRTIs and NNRTIs are the most common form, reflecting local prescription patterns. Thai ART guidelines have recommended a fixed-dose combination of stavudine/zidovudine, lamivudine and nevirapine (d4T/3TC/NVP or AZT/3TC/NVP) as preferred initial regimens. A prospective cohort study in patients who were initiated d4T/3TC/NVP has shown that 9.3% of patients developed HIV-1 drug resistance within 3 years. Another study of genotypic resistance testing conducted among HIV-1 infected patients who experienced treatment failure with their first antiretroviral regimen of d4T/3TC/NVP during 2003-2005 in Thailand has demonstrated that late detection of virological failure is associated with extensive HIV-1 drug resistance and limited options for a second-line regimen. In resource-limited settings where availability of antiretroviral agents is limited, strategies for prevention of HIV-1 resistance are crucial. The adherence to ART is the key of successful treatment. Early detection of virological failure with regular monitoring of treatment responses may provide more options and better treatment outcomes.