and curtail the development of drug resistance. Innovations in reinforcement of this strategy should further facilitate its delivery and enhance its effectiveness. However, established MDR-TB is notoriously difficult to treat, and necessitates the use of alternative specific anti-TB chemotherapy regimens. These regimens comprise combination use of second-line and third-line anti-TB drugs, that are generally more costly and toxic, and have to be given for longer durations - usually in the range of 18-24 months. The fluoroquinolones, better tolerated by patients, have a pivotal role in MDR-TB treatment. Optimal delivery of these treatment regimens mandates a programmatic basis which is now included under the Stop-TB Drug-Resistance Programme(s). The key components embrace political commitment, quality-assured drug susceptibility testing, delivery of quality drugs, and delivery of chemotherapy under directly observed settings, and a sound recording and reporting system to monitor the individual treatment outcome of patient and overall performance of the TB control programme. Adjunctive surgery in selected MDR-TB patients help to improve their treatment success. Further exploration is required regarding the use of immunotherapy. The recent emergence of extensively drug-resistant TB (XDR-TB), representing MDR-TB with additional resistance to fluoroquinolones and one or more of the second-line injectable drugs - kanamycin, amikacin and capreomycin, poses a serious challenge to the global control of TB. Given the escalating size of the problem, it is imperative to develop drugs against the XDR-TB worldwide, gigantic instillation to the global control of TB. Given the escalating size of the problem of MDR-TB and XDR-TB worldwide, gigantic instillation of resources is required for control of this formidable challenge, largely through more accurate and rapid drug susceptibility testing (especially for rifampin and fluoroquinolones), regular drug-resistance surveillance, development of new anti-TB drugs and other therapeutic modalities, intensive infection control, especially in HIV care settings, as well as strengthening of currently functioning DOTS and Drug-Resistance Programmes.

**CS13-02** The Anti-TB Treatment for AIDS Patients Coinfection with TB

Hongzhou Lu*. Division of Infectious Diseases, Fudan University, Shanghai, China

**Objective:** In order to take an insight into the treatment of AIDS and tuberculosis (TB) co-infection, we made a retrospective study in 9 hospitals in mainland China.

**Method:** According to the unified questionary, 241 cases with such co-infection were enrolled and the data in respect to therapy and prognosis were analysed.

**Result:** Pulmonary TB accounted for 59.3%, extra pulmonary TB for 21.2% and both for 19.5% of the patients. 76.8% of the 241 patients were treated with anti-tuberculosis medication and 69.7% of the patients help to improve their treatment success. Further exploration is required regarding the use of immunotherapy. The recent emergence of extensively drug-resistant TB (XDR-TB), representing MDR-TB with additional resistance to fluoroquinolones and one or more of the second-line injectable drugs - kanamycin, amikacin and capreomycin, poses a serious challenge to the global control of TB. Given the escalating size of the problem, it is imperative to develop drugs against the XDR-TB worldwide, gigantic instillation of resources is required for control of this formidable challenge, largely through more accurate and rapid drug susceptibility testing (especially for rifampin and fluoroquinolones), regular drug-resistance surveillance, development of new anti-TB drugs and other therapeutic modalities, intensive infection control, especially in HIV care settings, as well as strengthening of currently functioning DOTS and Drug-Resistance Programmes.

**Conclusion:** The combination regimen of many anti-TB agents is potent to curing AIDS/TB co-infection. Generally, 4 anti-TB agents used in first stage for two months and 2 drugs used for anti-TB in second stage for 4 months. If the tuberculosis was not cured by the above regimen, the treatment of 2 agents regimen should last for 7 months. The mortality (15.8%) was high even with HAART and anti-tuberculosis therapy.

**CS13-03** Molecular Diagnosis for Extensively Drug Resistant Tuberculosis (XDR-TB): Current Practice and Challenges

Wing Cheong Yam*. Department of Microbiology, Queen Mary Hospital, The University of Hong Kong, Hong Kong SAR, China

The emergence of extensively drug resistant tuberculosis (XDR-TB) strains among multi drug resistant tuberculosis (MDR-TB) patients is widely considered as a serious threat to global TB control. The diagnosis of XDR-TB is hampered by the absence of effective and rapid diagnostic techniques for antimycobacterial susceptibility testing especially in high-burden countries. The advances in molecular technologies (eg. PCR, reverse hybridization and DNA sequencing) represents a rapid diagnostic tool due to their superior accuracy and cost-effectiveness in the detection of mutations associated with drug resistance. Multiplex allele-specific (MAS)-PCRs of mabA (3-ketoacyl reductase) and katG (catalase-peroxidase) genes identify isoniazid resistance while rifampin and ofloxacin resistance can be detected by PCR-sequencing of rpoB (RNA polymerase β-subunit) and gyrA (gyrase A) genes respectively. Direct detection of drug resistance associated mutations in mabA, katG, rpoB, and gyrA genes indicate potential application for rapid diagnosis of XDR-TB, resulting in a net time gain of 1 to 2 months over conventional antimycobacterial susceptibility testing so that early initiation of anti-TB therapy and management of patients can be initiated.

**CS13-04** Antituberculous Therapy: The Impact of Pharmacokinetic-Pharmacodynamic Parameters

Mamie Hui*. Department of Microbiology, The Chinese University of Hong Kong, Hong Kong, China

Understanding of pharmacokinetic-pharmacodynamic (PK-PD) principles has revolutionized our understanding of anti-infective dosing design. Apart from recognizing the pharmacokinetic properties (absorption, distribution, metabolism and excretion) of an antibiotic, the pharmacodynamics (such MIC distribution), the PK-PD interactions such as concentration dependency and time dependency are all of paramount importance in the design of appropriate therapy. In the treatment of tuberculosis, as the treatment duration is usually prolonged, ensuring compliance is often problematic. Poor compliance will lead to failure of treatment, relapse of disease, and emergence of multi-drug or even extended-drug resistance. The recognition of specific property of a drug, such as persistent effect (also known as post-antibiotic effect) allows design of single daily dose, or even extended interval dosing regimen. In vitro models, animal models and clinical trials have flourished in recent years. Rifampicin, isoniazid, pyrazinamide, fluoroquinolones, oxazolidinone all have individual PK-PD characteristics in terms of MIC90, Cmax/MIC and AUC. These have lead to the development of possible twice weekly or even weekly regimens, as well as defining mutation selection window and its protection by the use of appropriate combination therapy. Improvement in the understanding of these treatment strategies, will not only maximize the therapeutic efficacy, but also improve compliance and also long term treatment outcomes.

**CS13-05** Identification of Latent Tuberculosis Infection by QuantiFERON-TB GOLD, ELISPOT, and Tuberculin Skin Test in End-Stage Renal Disease and Healthy Controls

Ih-Jen Su*. Division of Infectious Diseases, National Health Research Institutes, Taichung, Taiwan

Identification of latent TB infection (LTBI) is an important health policy issue. In BCG vaccination countries, however, tuberculin skin test (TST) is difficult to use as a predictor of TB infection. Recent application of interferon-γ blood tests has improved the diagnosis. In this study, we applied and compared these tests to identify the latent TB infection.

**Materials and Methods:** This was a prospective, double-matched, cohort study in which 32 ESRD patients and 32 age-matched, healthy controls were enrolled. The TST and two new interferon-γ blood tests, QuantiFERON-TB Gold QFT-G and T-SPOT.TB (ELISPOR), were performed. The subjects were followed