European Respiratory Society
Annual Congress 2013

Title: Anti-tuberculosis drug concentrations and treatment outcomes in patients with both tuberculosis and HIV infection

Shadi 22721 Baniasadi sbaniasadi@yahoo.com , Payam 22722 Tabarsi payamtabarsi@yahoo.com MD , Seyed Alireza 22723 Nadji sarnadji@yahoo.com , Farzad 22724 Kobarfard farzadkf@yahoo.com , Raha 22725 Eskandari eskandari_raha@yahoo.com and Fanak 22727 Fahimi fanakfahimi@yahoo.com . [1] Pharmaceutical Care Department, National Research Institute of Tuberculosis and Lung Disease, Tehran, Islamic Republic of Iran ; [2] Chronic Respiratory Disease Research Center, National Research Institute of Tuberculosis and Lung Disease, Tehran, Islamic Republic of Iran ; [3] Virology Research Center, National Research Institute of Tuberculosis and Lung Disease, Tehran, Islamic Republic of Iran ; [4] Medical Chemistry Department, School of Pharmacy, Tehran, Islamic Republic of Iran ; [5] Pharmaceutical Care Department, National Research Institute of Tuberculosis and Lung Disease, Tehran, Islamic Republic of Iran and [6] Pharmaceutical Care Department, National Research Institute of Tuberculosis and Lung Disease, Tehran, Islamic Republic of Iran .

Body: Introduction: A poor treatment response in persons with tuberculosis (TB) and HIV infection can be related to low anti-TB drug concentrations, particularly if diarrhea and malabsorption are present. Although therapeutic drug monitoring (TDM) is not routinely recommended, growing bodies of literature suggest that TDM may be a useful tool to optimize therapy. Aims: We objected in this study to determine serum concentrations of anti-TB drugs and treatment outcomes in HIV/TB patients. Methods: Using HPLC method, serum concentrations of izoniazid (INH), rifampin (RIF), and pyrazinamide (PZA) were determined 3-5 days after receiving medications and treatment outcomes of the patients were evaluated. Results: Twenty two patients [median age: 35 years (rang 27-57 years), median CD4+ count: 16 cells/mm3 (range 5-444 cells/mm3)] were enrolled in the study. All patients had low or very low serum concentrations of INH and RIF, 2 h after drugs ingestion. Serum concentrations of PZA were in normal and low ranges in 5 (22.73%) and 17 (77.27%) of the patients respectively. Of 22 patients, 9 (41%) were considered cured. Five patients (22.7%) died during treatment (four of them had low or very low serum concentrations of three medications), three were lost to follow-up, three were still receiving therapy, and two had relapsed (one of them was infected with Mycobacterium Kansasii). Conclusions: Low and very low serum concentrations of INH, RIF, and PZA and poor treatment outcomes are common among our patient. Future study in a wider patient sample over a longer follow-up period are required to explore the association of between anti-TB drug concentrations and treatment outcomes.