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Poster Presentation

Antibiotic resistance

Changing drug profiles of the same strain reactivating three times in a patient with intestinal Tuberculosis

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BACKGROUND: In 1998-99, a national drug resistance survey in Venezuela was done by Control Tuberculosis Program reporting low prevalence of antituberculosis multi-drug-resistance (MDR) with 0,5 % in new cases. OBJECTIVE: To asses drug susceptibility of *Mycobacterium tuberculosis* strains isolated from 2001 to 2006 in the National Institute of Hygiene Rafael Rangel, in Caracas. METHODS: Available strains were tested using the Alamar Blue colorimetric method of Yajko *et al*. RESULTS: Of 329 strains, 45 (14 %) showed resistance to one or more drugs. Resistance to streptomycin (10 ug/ml) was found in 31 (9 %) strains, isoniazid (INH) (1 ug/ml) in 23 (7 %), rifampicin (RMP) (5 ug/ml) in 13 (4 %), and ethambutol (10 ug/ml) in 12 (4 %). Of the 15 (5 %) isolates resistant to two ore more drugs, 12 (4 %) were resistant to INH and RMP (defined as MDR) Of these 12 MDR-TB strains, 11 were isolated from sputum and one from pleural fluid, we had clinical-epidemiological information of 4 patients.

Prevalence of anti-tuberculosis drug resistance in Caracas, Venezuela; 2001-2006

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INTRODUCTION: A 34-years old masculine patient was diagnosed with intestinal TB in 4 opportunities: January 2004, January 2005, August 2006 and September 2007. TB treatment was initiated four times with the same 4 drugs (INH, RIF, PZA, EMB). Patient completed treatment and improved significantly his conditions; gaining his bodyweight and without symptoms. OBJECTIVES: To determine if drug resistance and consequently relapse or a re- infection with another strain caused intestinal TB in this patient. METHODS: Drug resistance patterns (INH, RIF, STR, EMB) for the four isolates of *M. tuberculosis* were determined with the nitrate reductase assay described by Ängeby *et al*. 15-Locus based MIRU described by Supply *et al.* was preformed to determine the relatedness of the strains. RESULTS: The strain isolated in the year 2004 showed resistance to isoniazid only. The strain isolated in 2005 was susceptible to all the 4 drugs tested. The strains isolated in 2006 and 2007 were resistance to Rifampicin. MIRU-VNTR showed the same pattern for the four isolates. DISCUSSION: This study shows that different sub- populations of the same strain colonized the patient in different moments of time. There is no explication why different sub-populations survive treatment and reactivate.