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Title: Expression of P-gP in patients with resistant tuberculosis

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Body: Background: Resistant tuberculosis (TB) is one important cause of treatment failure. One of the MDR resistance mechanisms is MDR1 gene expression, as P-glycoprotein (P-gP) expressed on cell surface, its related with output of drugs and could modify their biodisponibility. Objectives:To evaluate P-gP expression in patients with monoresitance (MR) or multi-drug resistance (MDR) tuberculosis. Methods: A prospective study was performed analyzing blood samples of patients with confirmed resistant TB in treatment at Evandro Chagas Research Institute (IPEC) in Rio de Janeiro, Brazil, since 2010. Flowcytometric analyses of P-gP Activity - For detection of P-gP function as a transporter, Rhd 123, by Sigma-Germany (SG) was used as a fluorescent. Ciclopрorin-A (SG) was used in this study to reverse P-gP mediated drug resistance and Rifampicin (R) as inductor. Detection P-gP expression - The monocytes P-gP expression was determined using a murine anti-P-gP monoclonal antibody (eBioscience-USA) and anti-CD14, and analyzed using flowcytometer (EPICS XL-MCL System II; Beckmam Coulter, USA). Results: The samples of 12 patients were analysed. Seven men and five women, with ages from 23 to 73 years old.The panel of resistance showed: R(2); Rifampicin more isoniazide (RI) (4); RI more Streptomycin (S) (3); RI more Ethambutol (E) (2) RIS more Pirazinamide (Z) (1).The efflux activity was identified in 53.8% of patients.The Rifampicin was able to efflux induce in majority of patients.Unexpected the monocytes P-gPexpression was found in 57, 7% and 74, 1%, respectively in patients with efflux activity and no efflux activity. Conclusion: These findings can be involved with resistant TB and future relation with response of treatment must be evaluated.