RELATIONSHIP BETWEEN ASTHMA AND TUBERCULOSIS INFECTION IN CHILDREN IN A COMMUNITY WITH HIGH PREVALENCE FOR BOTH

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Background Data suggests that exposure to Tuberculosis (TBC) could potentially suppress development of asthma by stimulating TH1 and suppressing TH2 response. Epidemiological data includes the observation of an inverse and significative correlation between the prevalence of asthma and TBC in several countries. In Peru we have a high prevalence for both. Experimental data suggest that the long term control of TBC infection is associated not only with an increase of TH1 but also with a simultaneous decrease in the TH2 response.

Aims Find and establish the relationship between asthma and TBC infection in children in a community with high prevalence for both.

Methods Patients were prospectively evaluated at the outpatient office of Pediatric Pulmonology Unit of Hospital Hipólito Unanue. Tuberculin skin test (PPD) were taken to those above 2 years of age with symptoms of asthma or exposure to TBC. We excluded undernourished patients, those with TBC or immunosupressed disease, use of systemic corticosteroids for more than 2 weeks, recent viral or antiviral immunization, chronic pulmonary or cardiovascular disease, and recent exposure to TBC patient (false negative PPD). Diagnosis of TBC infection was based on a positive PPD that showed a diameter of induration = or > 10 mm. Diagnosis of asthma was based on physical examination and questionnaire based on ISAAC study.

Results We included 95 patients. There were 78 with asthma (82.1%) and 17 with TBC infection (17.89%). The asthma group had 73 patients with a negative PPD (93.59%) and 5 with a positive test (6.41%) (p<0.001). The TBC infection group had 5 patients with asthma (29.41%) and 12 (70.59%) with no previous or current signs or symptoms of asthma (p<0.001). There was 11.012 times more risk in the PPD negative group to have asthma over the PPD positive group (CI 95%: 4.46-27.13).

Conclusion The relationship between asthma and Tuberculosis infection in children is inverse as described in previous data, even in a high prevalence community for both.