

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 4808

**Publication Number:** 1873

**Abstract Group:** 10.2. Tuberculosis

**Keyword 1:** IGRA (Interferon [gamma]) **Keyword 2:** Tuberculosis - diagnosis **Keyword 3:** Infants

**Title:** Evaluation of non-tuberculous mycobacteria effect in the tuberculosis infection diagnosis: Interim analysis of a TBNET study

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**Body:** The aim was to determine the role of previous non-tuberculous mycobacteria (NTM) sensitization in children as a factor of discordant results between tuberculin skin test (TST) and T-SPOT.TB assay (Oxford Immunotec). We studied the presence of M.avium sensitized T cells in 87 non BCG vaccinated paediatric patients with discordant results: TST positive and T-SPOT.TB negative. We also included as controls 11 individuals with a negative TST and a negative T-SPOT.TB, and 8 patients with microbiologically confirmed NTM infection. Peripheral blood mononuclear cells were stimulated with M.avium sensitin. The presence of reactive T cells were determined by means of ELISPOT. From the 87 children, in 31 cases (35.6%) we obtained a positive ELISPOT result after stimulation with M. avium sensitin, in 50 cases the result was negative (57.5%), and in the remaining 6 cases the test failure. The number of responder T cells after M.avium sensitin stimulation was significantly higher that the number of responder T cells after specific M.tuberculosis antigens stimulation. In all children included as controls were obtained negative ELISPOT results after stimulation with M.avium sensitin. The differences of the number of responder T cells to M.avium sensitin between the study and the control group were significant. In 4 cases a positive result was obtained between patients with confirmed NTM infection. Our results suggest that previous NTM sensitization in children induces false positive results in TST for diagnosing latent tuberculosis infection. The use of IFN- $\gamma$  tests provide a more specific diagnostic of TB infection in childhood.