

## ASSESSMENT OF THE NEW INTERFERON-GAMMA RELEASE ELISA ASSAY IN CHILDREN WITH SUSPECTED TB IN A LOW INCIDENCE COUNTRY

Russo Cristina<sup>1</sup>, Coltella Luana<sup>1</sup>, Tozzi Alberto Eugenio<sup>2</sup>, Menichella Donato<sup>1</sup>

<sup>1</sup>Microbiology Laboratory, <sup>2</sup>Epidemiology Unit, Bambino Gesù Children Hospital, Rome Italy

**Purpose of the study:** Recently a new rapid interferon-gamma release assay (Quantiferon TB- Gold<sup>®</sup> Cellestis) based on whole blood stimulation with *Mycobacterium tuberculosis* specific antigens (ESAT-6 and CFP-10) has been developed. We evaluated this test as a supporting method for accurate diagnosis of tuberculosis in a paediatric population.

**Methods:** From May 2004 we studied children admitted at Bambino Gesù Children Hospital suspected to be TB affected. 106 children were finally enrolled; 57 % of these (60 children) were represented by patients under 5 years old, the remain 43 % (46 children) were over 5 years old. All of these children were evaluated using clinical, radiological and microbiological criteria, 41 had final diagnosis of active TB (microbiological confirmed or clinically managed as TB affected), 65 had different diagnosis (10 Non tuberculous Mycobacteria disease, 55 other pulmonary diseases).

**Results:** QFT- G totally results were 32 positive, 68 negative and 6 indeterminate.

According to Final TB Diagnosis: the sensitivity of QFT-G was 78 % , the specificity was 100% (Positive L-R ratio was infinity and the Positive Predictive Value was 100%). According to Pulmonary TB Diagnosis the sensitivity of QFT-G was 88 % , the specificity was 100% (Positive L-R ratio was infinity and the Positive Predictive Value was 100%). The Accuracy range of QFT-G in children under 5 years was high between 0,946 -0,881

The performance of QFT-G was evaluated also against TST and the agreement between these two tests was 64.6% (K = 0.347).

**Conclusion:** Our data suggest that QFT-G is reliable in childhood especially in patient under 5 years old and it is helpful as diagnostic tool as other microbiological procedures.