Contribution of the QuantiFERON-TB Gold-in Tube test in the diagnosis of latent tuberculosis in children living with smear-positive pulmonary tuberculosis patients

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ABSTRACT

Aims and objectives: People living in contact with smear-positive pulmonary tuberculosis (PTB) patients are highly exposed to TB infection, including children who are a major risk group.

TB disease, among those who become infected, manifests itself mainly in the two years (90%) after the identification of the index case. The latent TB infection can be detected by means of two tests: the tuberculin skin test (TST) and the IGRAs test – QuantiFERON-TB Gold in Tube (QFT-G). The latter showed greater specificity in the prediction of latent TB infection in an adult population, but not in a child population.

The main objective of this study is to estimate the incidence of TB disease in children living in contact with an M+ Pulmonary tuberculosis index case (PTM+) according to the positivity of the Quantiferon test and/or the tuberculin skin test (TST), during the two years following exposure. The results of this study will eventually rehabilitate the national guidelines on individual contacts.

Methods: It is a descriptive study, cohort-type, prospective, multicenter, conducted amongst children in contact with a PTM+ case, aged between 6 months and 15 years, and followed for two years in order to estimate the incidence of TB disease in different groups defined by the results of the Quantiferon test and the TST.

The recruitment of children will be based on the PTM+ index case diagnosed and taken in charge by the Services of Control of Tuberculosis and Respiratory Diseases (SCTMR) located in the Wilaya of Algiers, diagnosed in 2014. Seven centers were selected.

Results: This initial work will describe the clinical characteristics of the index case diagnosed during 2014 (December 2013–October 2014) and the results of the TST and Quantiferon test carried out in children contacts at the time of their recruitment. At the time, 396 children living in contact with M + PT have been tested with Tuberculin and QFT-G. They are maintained under control during at least two years.

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