

CAN MOLECULAR EPIDEMIOLOGY OF *M. TUBERCULOSIS* IMPROVE THE CONVENTIONAL STUDY CONTACT?

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Purpose of the study:

1. Study tuberculosis (TB) transmission in Barcelona over a 2-year period (2003-2004).
2. Analyze and compare the information obtained by RFLP and Conventional study contact.

Methods:

- a.) Molecular epidemiology: RFLP- IS6110 y MIRU12.
- b.) Conventional study contact (CCS).

Results: A total of 892 cases of TB were reported in Barcelona, 687 (77%) of them confirmed by culture. RFLP was performed in 463 (67.4%), showing 280 (60.4%) strains with a single pattern and 183 (39.6%) with a shared pattern, grouped in 65 clusters. CCS was made in 613/892 (68%), showing 44 clusters involving 101 (16.5 %) patients

The 44 CCS clusters and 65 RFLP clusters defined 96 clusters involving 255 cases. The familial link was the most frequent in the CCS (78.2%), predominating the mother-son relationship 20/45 (36.8%). Using RFLP the absence of an epidemiological link and the neighbourhood and hobby links were greater than the familial link. A correlation was found between the results of both techniques in 61.5 % of the cases, while 30.7 % were only clustered by RFLP, 5.4 % only by CCS and 3.4 % were clustered by both techniques but in different clusters

Significant differences were found comparing the populations studied by RFLP and/or CCS:

1. Populations with factors potentially associated with social problems (IVDU, homeless, cases with resistance and HIV) were more frequent among those studied by RFLP,
2. CCS included more patients less than 15 years (77 vs 34, $p < 0.05$) most of them with negative cultures,
3. Compared with the population not studied, both techniques included a greater proportion of patients with pulmonary and smear-positive TB.

Conclusions: Both techniques studied different populations as observed on comparing the results of the two techniques and comparing each one with the population not studied.

1. RFLP allows detection of more sporadic contact relationships such as neighbourhood and hobby activities, and other less suspected of unknown origin.
2. The results of RFLP suggest the need of having a good cooperation between both techniques for improving the methodology of Contact Study Protocols.