Abstract 036

RISK FACTORS FOR ACTIVE TUBERCULOSIS AT MONTH 24 IN HOUSEHOLD CONTACTS OF SMEAR POSITIVE TB IN SENEGAL

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Aim: To determine the incidence and risk factors for active tuberculosis (TB) amongst household contacts of smear positive pulmonary tuberculosis (TB) cases, given infection, and assess the value of an in-house interferon-gamma release assay for the prediction of tuberculosis.

Methods: Household contacts (HHC) of smear–positive TB patients aged ≥ 18 years recruited in 2 health centres in Dakar, Senegal, were identified. A tuberculin skin test (TST) was performed in each of the contacts and an ESAT6/CFP10 (EC)-ELISPOT assay was performed in a random sample of them. HHCs were actively and passively followed-up for 24 months to detect the occurrence of active TB. We analysed the association between the occurrence of TB and the characteristics of the HHCs at inclusion.

Results: From January 2004 to November 2004, 154 TB smear positive cases were enrolled, giving a total of 1990 HHCs (931 males and 1059 females). TB was diagnosed in 49 HHCs (23 males/26 females); 11 of these had a history of past TB treatment. Among the 49 secondary TB cases, 75.5% (37/49) were TST positive (≥10mm) and 68.2% (15/25) had a positive response to ESAT6/CFP10 ELISPOT at baseline. The occurrence of active TB amongst HHCs during follow-up was associated with the presence of a positive response to TST (p=0.047) and ESAT6/CFP10 ELISPOT assay at inclusion (p=0.019) - but not with a positive response to PPD ELISPOT (p=0.16). Development of TB was also associated with age (p=0.001), history of TB (p=0.001) and the gradient of exposure to the index case at night-time (p=0.001).

Conclusion: In a highly TB prevalent area, TST and ESAT6/CFP10 ELISPOT are useful tests for the prediction of active TB amongst HHCs of TB smear positive patients. Development of TB in HHC of smear-positive TB cases is associated with the degree of exposure to the case.