Body: Aim: To determine the agreement between Quantiferon-TB Gold In Tube (QFN), T-SPOT.TB and TST in diagnosing LTBI in a contact study. Methods: 753 individuals from contact tracing studies were included in the study. In all cases QFN and TST were performed, and in 141 patients the T-SPOT was also performed. TST was negative when the induration was less than 5 mm. Results: The QFN and TST obtained concordant result in 478 cases from the 753 patients (the overall agreement was 63%), being both tests negative in 145 cases, and positive in 333 cases. From the 275 discordant results, in only one case the TST was negative and the QFN positive (corresponds with a high degree of exposure to the index case), and in 274 cases the TST was positive and the QFN negative, corresponding in 239 cases to BCG-vaccinated patients, and without significant difference between time of exposure to the index case. With regards to the 141 patients tested with T-SPOT both in vitro tests were concordant in 120 cases (85.1%), being in 61 cases both tests negative, and in 59 cases positive. From the 21 discordant results, in 5 cases the QFN was positive and the T-SPOT negative, and in 16 cases the QFN was negative but the T-SPOT was positive, being in 15 of them the time of exposure significantly higher. Conclusion: QFN and T-SPOT.TB have a high concordance in the diagnosis of LTBI. T-SPOT.TB shows a higher number of positive results than QFN. The main discordant results between TST and QFN should be attributed to the BCG-vaccination. Both tests seem useful for the diagnosis of LTBI in the contact studies. The study was supported by a grant from FIS (08/1738).