

M-tuberculosis DNA detection in nasopharyngeal mucosa can precede tuberculosis development in contacts

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Resumen

BACKGROUND: The nasopharynx is a known gateway for some mycobacterial species such as *Mycobacterium bovis* and *M. leprae*. *M. tuberculosis* can cross lymphoepithelial barriers in vitro, but its ability to colonise the nasopharyngeal mucosa in vivo has not been established.

OBJECTIVE: To determine if *M. tuberculosis* can be transiently detected in nasopharyngeal mucosa of tuberculosis (TB) contacts as a preliminary step in the development of tuberculous infection.

DESIGN: Exploratory study conducted among asymptomatic household contacts of pulmonary TB cases. A chest X-ray, QuantiFERON(R) TB-Gold or tuberculin skin test and a bilateral nasopharyngeal swab for Xpert(R) MTB/RIF and mycobacterial culture were performed at baseline and repeated 8-12 weeks later.

RESULTS: Eighty-nine contacts were enrolled a median of 9 days after the diagnosis of the index case. At baseline, 29.9% were positive for latent tuberculous infection and one subject (1.1%) had a positive Xpert in the nasopharyngeal swab with a normal chest X-ray, negative QuantiFERON and negative induced sputum. After 12 weeks' follow-up, this subject developed a new cough and upper lobe infiltrates and *M. tuberculosis* grew in sputum. No other cases of active TB were detected at follow-up.

CONCLUSION: The detection of *M. tuberculosis* DNA in the nasopharyngeal mucosa of contacts is an infrequent event that in this instance preceded the development of pulmonary TB. Its pathogenic role requires further investigation.

Palabras clave

Palabras clave de autor: [nasopharyngeal carriage](#); [mucosal colonisation](#); [TB pathogenesis](#)

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