Mycoplasma pneumoniae beyond the COVID-19 pandemic: where is it?

Mycoplasma pneumoniae is a major bacterial cause of respiratory tract infection.[1] In early 2021, we established a collaborative global network to assess the effect of non-pharmaceutical interventions against COVID-19 on the transmission of *M pneumoniae*. Data collected through this network showed a significantly reduced incidence of *M pneumoniae* in the first year after the implementation of non-pharmaceutical interventions (1·69%; April 1, 2020–March 31, 2021) compared with previous years (8·61%; 2017–20),[2] as observed for other respiratory infections.[3] The lifting of non-pharmaceutical interventions has led to the resurgence of many respiratory pathogens.[4,5] We used this network to track *M pneumoniae* in the second year after the implementation of non-pharmaceutical interventions (April 1, 2021–March 31, 2022), during which these interventions were relaxed or discontinued.

Data from 34 sites from 20 countries in Europe, Asia, the Americas, and Oceania were received (appendix pp 3–5). The mean incidence by direct test methods was 0·70% (SD 2·98; appendix pp 6–7). Using such methods (PCR, 26 sites; antigen test, one site), *M pneumoniae* was detected in 41 (0·06%) of 64 453 tests (appendix pp 9–10). For three national or regional surveillances, only the number of positive tests was reported: 122 from Belgium (direct test methods using various techniques such as PCR, antigen test, and culture), 232 from Germany, and 284 from Finland (both predominantly serology). As previously observed,[2] a discrepancy was found between detection rates by PCR (0·1%) and serology (13·3% for IgM detection; p<0·01) from three sites (Aarau, Switzerland; Homburg and Düsseldorf, Germany) that reported data separately for each method (appendix pp 6–7). Another three sites (two sites from Athens, Greece; one site from New Delhi, India) used exclusively serology (IgM detected in 68 [13%] of 519 tests; appendix pp 6–7). To highlight the complete absence of *M pneumoniae* in contrast to the resurgence of other pathogens, we present data from Zurich, Switzerland (appendix pp 8–10).

These data show an ongoing scarcity of *M pneumoniae* globally. So where is it? The reopening of schools had little effect on the transmission of *M pneumoniae* in 2020, which is surprising because children are believed to be the main drivers of infection.[1,2] Even more striking was the sustained suppression of *M pneumoniae* in 2021–22 after prolonged periods during which non-pharmaceutical interventions were relaxed or discontinued, while other pathogens resurged as an indicator of community transmission.[5] Considering the slow generation time (6 h) and slow spread (1–3 week incubation period) of *M pneumoniae*,[1] a longer time interval might be required for re-establishment within the population after the lifting of non-pharmaceutical interventions. We do not know when *M pneumoniae* will reappear; however, when it does, an exceptionally large wave of infections could occur as a result of reduced exposure, with a resulting increase in rare severe disease, extrapulmonary manifestations, or both.[1] Continuous surveillance could help to alert to the resurgence of *M pneumoniae*.

We declare no competing interests. Study group members are listed in the appendix (pp 1–2).

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