

Journal Pre-proof

A call to integrate Post-TB Lung Disease into vaccination strategies for chronic respiratory diseases

Rosella Centis Lia D'Ambrosio Sandra J Inwentarz Giovanni Battista Migliori



PII: S0300-2896(25)00148-6

DOI: <https://doi.org/doi:10.1016/j.arbres.2025.04.012>

Reference: ARBRES 3793

To appear in: *Archivos de Bronconeumología*

Received Date: 22 April 2025

Please cite this article as: Centis R, D'Ambrosio L, Inwentarz SJ, Migliori GB, A call to integrate Post-TB Lung Disease into vaccination strategies for chronic respiratory diseases, *Archivos de Bronconeumología* (2025), doi: <https://doi.org/10.1016/j.arbres.2025.04.012>

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2025 SEPAR. Published by Elsevier España, S.L.U. All rights are reserved, including those for text and data mining, AI training, and similar technologies.

Discussion Letter

A call to integrate Post-TB Lung Disease into vaccination strategies for chronic respiratory diseases

Rosella Centis^a, Lia D'Ambrosio^b, Sandra J Inwentarz^c, Giovanni Battista Migliori^a,

^a Servizio di Epidemiologia Clinica delle Malattie Respiratorie, Istituti Clinici Scientifici Maugeri IRCCS, Tradate, Italy

^b Public Health Consulting Group, Lugano, Switzerland

^c Instituto Profesor Dr. Raúl Vaccarezza, Facultad de Medicina, Universidad de Buenos Aires Clínica Privada Monte Grande, Argentina

Address for correspondence: Giovanni Battista Migliori, Servizio di Epidemiologia Clinica delle Malattie Respiratorie, Istituti Clinici Scientifici Maugeri IRCCS, Via Roncaccio 16, Tradate, Varese, 21049, Italy. E-mail: giovannibattista.migliori@icsmaugeri.it

Rosella Centis: 0000-0002-8551-3598

Lia D'Ambrosio: 0000-0002-7000-5777

Sandra Inwentarz: 0000-0002-7526-1577

Giovanni Battista Migliori: 0000-0002-2597-574X

Dear Editor,

Post Tuberculosis Lung Disease (PTLD) is a condition attracting much interest, as affecting up to 50% of drug-susceptible and 85% of drug-resistant patients completing anti-TB treatment¹⁻⁴.

4.

Beyond affecting the patients' quality of life, PTLTLD predisposes to multiple lung diseases (e.g. Chronic Obstructive Pulmonary Disease-COPD, chronic pulmonary aspergillosis, bronchiectasis, and COVID-19)⁴⁻⁷, it increases the risks of cancers and cardiovascular diseases^{1,2} and produces a four-fold higher mortality rate compared to the general population²⁻⁷.

PTLTD, a well-recognized chronic respiratory condition^{8,9}, benefits from selected vaccinations as recently emphasized by the Brazilian and Latin American Thoracic Association (ALAT) guidelines^{8,9}.

A recent national inter-society statement summarized the best vaccination strategies in respiratory disease¹⁰ which included COPD, asthma, bronchiectasis and interstitial lung diseases and, unfortunately, not PTLTD.

Vaccination is an important approach to prevent and mitigate the evolution of lung damage, caused by TB, as well as rehabilitation of patients with PTLTD is essential to allow them to return to an active and productive life^{11,12}.

Recent evidence¹³ showed how vaccines against influenza, pneumococcal disease, and COVID-19, can be beneficial for PTLTD patients who should also receive vaccines recommended for the general population or specific age groups (e.g., tetanus, diphtheria, pertussis, measles, and shingles¹³. These vaccinations are essential to reduce the burden of preventable infections and improve long-term outcomes in this vulnerable population.

We therefore call for including PTLTD among the chronic respiratory conditions likely to benefit from a tailored vaccination plan.

DECLARATIONS

Funding of the research: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of interest: the authors declare not to have any conflicts of interest that may be considered to influence directly or indirectly the content of the manuscript.

Artificial intelligence involvement: None of the material has been partially or totally produced with the help of any artificial intelligence software or tool.

Acknowledgements: The article is part of the scientific activities of the Global Tuberculosis Network (GTN), hosted by the World Association for Infectious Diseases and Immunological Disorders (WaiDID). This work was partially supported for Istituti Clinici Scientifici Maugeri, by the “Ricerca Corrente”, funding scheme of the Italian Ministry of Health. The funder had no role in the design, data collection, data analysis, and reporting of this study

References

1. Zawedde J, Abelman R, Musisi E, Nyabigambo A, Sanyu I, Kaswabuli S, et al. Lung function and health-related quality of life among adult patients following pulmonary TB treatment. *Int J Tuberc Lung Dis*. 2024;28(9):419–26.
2. Nightingale R, Carlin F, Meghji J, McMullen K, Evans D, van der Zalm MM, et al. Post-TB health and wellbeing. *Int J Tuberc Lung Dis*. 2023;27(4):248–83.
3. McDonald AK, Nakkonde D, Kaggwa P, Zalwango S, Joseph A, Buregyeya E, et al. Prevalence of TB-related symptoms and self-reported disability among adult TB survivors. *IJTL open*. 2024;1(12):540–6.
4. Pontali E, Silva DR, Marx FM, Caminero JA, Centis R, D’Ambrosio L, et al. Breathing Back Better! A State of the Art on the Benefits of Functional Evaluation and Rehabilitation of Post-Tuberculosis and Post-COVID Lungs. *Arch Bronconeumol*. 2022;58(11):754–63.

5. Thomson H, Baines N, Huisamen T, Koegelenberg CFN, Irusen EM, Mapahla L, et al. A new understanding of clinical patterns in post-TB lung disease. *Int J Tuberc Lung Dis.* 2024;28(3):115–21.
6. Hoole AS, Ilyas A, Munawar S, Cant M, Hameed R, Gill S, et al. Post-TB bronchiectasis: clinical characteristics and microbiology. *Int J Tuberc Lung Dis.* 2024;28(8):405–6.
7. Martinez-Garcia MA, Guan WJ, de-La-Rosa D, Athanazio R, Oscullo G, Shi MX, et al. Post-TB bronchiectasis: from pathogenesis to rehabilitation. *Int J Tuberc Lung Dis.* 2023;27(3):175–81
8. Silva DR, Santos AP, Visca D, Bombarda S, Dalcolmo MMP, Galvão T, et al. Brazilian Thoracic Association recommendations for the management of post-tuberculosis lung disease. *J Bras Pneumol.* 2024;49(6):e20230269.. DOI: 10.36416/1806-3756/e20230269.
9. Inwentarz JS, Migliori GB, Lagrutta L, Bornengo F, Falco JL, De Sosa Márquez Y, et al. Recomendaciones para el manejo de la Enfermedad Pulmonar Post Tuberculosis. *Respirar.* 2024;16:271–88
10. Micheletto C, Aliberti S, Andreoni M, Blasi F, Di Marco F, Di Matteo R, et al. Vaccination Strategies in Respiratory Diseases: Recommendation from AIPO-ITS/ETS, SIMIT, SIP/IRS, and SItI. *Respiration.* 2025; <https://doi.org/10.1159/000544919>
11. Silva DR, Mello FCQ, Galvão TS, Dalcolmo M, Dos Santos APC, Torres DFM, et al. Pulmonary Rehabilitation in Patients With Post-Tuberculosis Lung Disease: A Prospective Multicentre Study. *Arch Bronconeumol.* 2025;S0300-2896(25)00065-1. DOI: 10.1016/j.arbres.2025.02.007.
12. Silva DR, Pontali E, Kherabi Y, D'Ambrosio L, Centis R, Migliori GB. Post-TB Lung Disease: Where are we to Respond to This Priority? *Arch Bronconeumol.* 2025;S0300-2896(25)00077-8. DOI: 10.1016/j.arbres.2025.03.001.

13. Silva DR, Santos AP, Visca D, Bombarda S, Dalcolmo MMP, Galvão T, et al. The potential for vaccines to aid the treatment of post-TB lung disease. *Int J Tuberc Lung Dis*. 2024;28(2):111-112.

Journal Pre-proof