



# Clinical outcomes of bronchiectasis in India: data from the EMBARC/Respiratory Research Network of India registry

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Shareable abstract (@ERSpublications)

**Long-term follow-up of patients in the Indian Bronchiectasis Registry identifies independent predictors of poor outcome including frequent exacerbations and chronic infection with Gram-negative pathogens such as *Klebsiella pneumoniae*** <https://bit.ly/3cWh1u7>

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## Abstract

**Background** Identifying risk factors for poor outcomes can help with risk stratification and targeting of treatment. Risk factors for mortality and exacerbations have been identified in bronchiectasis but have been

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almost exclusively studied in European and North American populations. This study investigated the risk factors for poor outcome in a large population of bronchiectasis patients enrolled in India.

**Methods** The European Multicentre Bronchiectasis Audit and Research Collaboration (EMBARC) and Respiratory Research Network of India (EMBARC-India) registry is a prospective observational study of adults with computed tomography-confirmed bronchiectasis enrolled at 31 sites across India. Baseline characteristics of patients were used to investigate associations with key clinical outcomes: mortality, severe exacerbations requiring hospital admission, overall exacerbation frequency and decline in forced expiratory volume in 1 s.

**Results** 1018 patients with at least 12-month follow-up data were enrolled in the follow-up study. Frequent exacerbations ( $\geq 3$  per year) at baseline were associated with an increased risk of mortality (hazard ratio (HR) 3.23, 95% CI 1.39–7.50), severe exacerbations (HR 2.71, 95% CI 1.92–3.83), future exacerbations (incidence rate ratio (IRR) 3.08, 95% CI 2.36–4.01) and lung function decline. Coexisting COPD, dyspnoea and current cigarette smoking were similarly associated with a worse outcome across all end-points studied. Additional predictors of mortality and severe exacerbations were increasing age and cardiovascular comorbidity. Infection with Gram-negative pathogens (predominantly *Klebsiella pneumoniae*) was independently associated with increased mortality (HR 3.13, 95% CI 1.62–6.06), while *Pseudomonas aeruginosa* infection was associated with severe exacerbations (HR 1.41, 95% CI 1.01–1.97) and overall exacerbation rate (IRR 1.47, 95% CI 1.13–1.91).

**Conclusions** This study identifies risk factors for morbidity and mortality among bronchiectasis patients in India. Identification of these risk factors may support treatment approaches optimised to an Asian setting.