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Prognostic factors associated with long-term mortality in 1445 patients with nontuberculous mycobacterial pulmonary disease: a 15-year follow-up study

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The long-term mortality of patients with nontuberculous mycobacterial pulmonary disease was significantly associated with the aetiological organism, cavitary disease and certain demographic characteristics <http://bit.ly/2kyXTHT>

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ABSTRACT Limited data are available regarding the prognostic factors for patients with nontuberculous mycobacterial pulmonary disease (NTM-PD). We investigated the prognostic factors associated with long-term mortality in NTM-PD patients after adjusting for individual confounders, including aetiological organism and radiological form.

A total of 1445 patients with treatment-naïve NTM-PD who were newly diagnosed between July 1997 and December 2013 were included. The aetiological organisms were as follows: *Mycobacterium avium* (n=655), *M. intracellulare* (n=487), *M. abscessus* (n=129) and *M. massiliense* (n=174). The factors associated with mortality in NTM-PD patients were analysed using a multivariable Cox model after adjusting for demographic, radiological and aetiological data.

The overall 5-, 10- and 15-year cumulative mortality rates for the NTM-PD patients were 12.4%, 24.0% and 36.4%, respectively. On multivariable analysis, the following factors were significantly associated with mortality in NTM-PD patients: old age, male sex, low body mass index, chronic pulmonary aspergillosis, pulmonary or extrapulmonary malignancy, chronic heart or liver disease and erythrocyte sedimentation

rate. The aetiological organism was also significantly associated with mortality: *M. intracellulare* had an adjusted hazard ratio (aHR) of 1.40, 95% CI 1.03–1.91; *M. abscessus* had an aHR of 2.19, 95% CI 1.36–3.51; and *M. massiliense* had an aHR of 0.99, 95% CI 0.61–1.64, compared to *M. avium*. Mortality was also significantly associated with the radiological form of NTM-PD for the cavitary nodular bronchiectatic form (aHR 1.70, 95% CI 1.12–2.59) and the fibrocavitary form (aHR 2.12, 95% CI 1.57–3.08), compared to the non-cavitary nodular bronchiectatic form.

Long-term mortality in patients with NTM-PD was significantly associated with the aetiological NTM organism, cavitary disease and certain demographic characteristics.