

Predictors of mortality in chronic pulmonary aspergillosis

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ABSTRACT

Chronic pulmonary aspergillosis (CPA) is a chronic progressive infection that destroys lung tissue in non-immunocompromised patients. Contemporary series suggest 50–85% 5-year mortality, with few prognostic factors identified.

A cohort of 387 CPA patients referred to the UK's National Aspergillosis Centre from 1992 to June 2012 was studied until June 2015. The impact of objective and subjective variables including age, sex, previous pulmonary conditions, dyspnoea score, quality of life, serum albumin and C-reactive protein and radiological appearances were assessed using Kaplan–Meier curves, log rank tests and Cox proportional hazards modelling. In samples of patients, retrospective review of time from likely onset of CPA to referral and cause of death were also investigated.

Survival was 86%, 62% and 47% at 1, 5 and 10 years, respectively. Increased mortality was associated with nontuberculous mycobacterial infection (hazard ratio 2.07, 95% CI 1.22–3.52; $p < 0.001$) and chronic obstructive pulmonary disease (1.57, 1.05–2.36; $p = 0.029$) as well as higher age (1.053, 1.03–1.07 per year; $p < 0.001$), lower albumin (0.92, 0.87–0.96 per $\text{g}\cdot\text{L}^{-1}$), lower activity (1.021, 1.01–1.03 per point increase in St George's Respiratory Questionnaire activity domain; $p < 0.001$) and having one, and especially, bilateral aspergillomas ($p < 0.001$).

Several factors impact on mortality of CPA, and can be evaluated as tools to assess CPA prognosis.