Pulmonary tuberculosis with acute respiratory failure: yet to be conquered

To the Editors:

In the current issue of the *European Respiratory Journal*, KIM *et al.* [1] nicely discuss a scarcely reported association between pulmonary tuberculosis (TB) and acute respiratory failure (ARF). They conclude that this tuberculosis-related critical condition has a high mortality rate and is associated with risk factors predicting poor outcome. However, certain issues in the study require clarification and comprehensive discussion, so that this condition can be properly understood and managed.

The diagnosis in the study by KIM *et al.* [1] was confirmed by sputum smear and/or culture for acid-fast bacilli in 80 out of 90 patients; the mean interval from hospital admission to commencement of anti-TB treatment was 5.0 ± 7.0 and 2.8 ± 2.5 days in the TB pneumonia and miliary TB groups, respectively. Culture for AFB takes 6–8 weeks to be interpretable, so treatment based on culture was probably excluded in this study.

KIM *et al.* [1] do not mention anti-TB treatment regimens administered to the patients. Treatment has been considered to be a vital factor affecting patients' outcome in pulmonary TB [2]. Anti-TB drug regimens, total duration of treatment, method of administration (under direct observation) and proper monitoring are key treatment-related factors that should be evaluated in all TB patients with or without ARF. Treatment factor should also be discussed in detail in the study of KIM *et al.* [1], as the research comprised retrospective data from over 17 yrs (from 1989), during which time significant changes in the treatment of TB have occurred, the most important being implementation of directly observed therapy, short course.

KIM *et al.* [1] found advanced age and nonuse of steroids to be important factors influencing survival of TB patients with ARF. Due to a decrease in immunological response and nutritional deficiencies, old age is associated with increased incidence of infections, cancer *etc.* [3]. In reality, advanced age is a confounding prognostic factor in all infections, not TB in particular. Corticosteroid use in TB is still an area of active research and has associated advantages and pitfalls. Adjunct therapy with steroids, in conjunction with anti-TB drugs, may be cautiously used in early phase treatment in selected patients with severe forms of pulmonary and extra-pulmonary TB [4, 5]. However, every effort should be made to prevent their irrational use as they may cause a significant increase in incidence of TB [6]. Moreover, their role is not standardised in any TB treatment guidelines across the globe.

In the study by KIM *et al.* [1], the hospital mortality rate for patients with respiratory failure due to pulmonary TB was found to be 65.6%; more than twice that found in other studies for patients with respiratory failure due to severe pneumonia [7]. It is therefore crucial to detect all relevant risk factors (including multi-drug resistance, treatment delay, multi-organ involvement *etc.*) in such patients and manage them without delay.

As tuberculosis is endemic in many parts of the world, this critical condition warrants further prospective evaluation for better management.

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STATEMENT OF INTEREST

None declared.

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From the authors:

We are grateful to D. Aggarwal and P.R. Mohapatra for their thoughtful comments.

Regarding the importance of the information on anti-tuberculous (TB) medication, D. Aggarwal's opinion is definitely correct. In Korea, a 6-month short course of chemotherapy (with four drugs: isoniazid; rifampicin; ethambutol; and pyrazinamide) was adopted in the mid-1980s in private sector hospitals and in 1990 in healthcare clinics (public sector) [1]. Hence, in our study in the present issue [2], all patients, except two multidrug-resistant tuberculosis patients, were started on first-line anti-TB treatment; no changes were made in the