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.

REFERENCES

From the authors:
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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
High incidence of sputum smear negative tuberculosis during HAART in Burkina Faso

To the Editors:

Tuberculosis (TB) and HIV co-infection is a public health priority in sub-Saharan Africa, where TB is the leading cause of death among HIV infected patients and the first manifestation of the HIV infection. [1–3]. An unprecedented global effort allowed increasing access to antiretroviral treatment in Africa, where >2 million persons received highly active antiretroviral therapy (HAART) at the end of 2007 [1].

There is evidence that HAART reduces the risk of TB, in both industrialised [4] and resource-limited countries in sub-Saharan Africa and south-east Asia [5–9]. However, there is no information on the HAART impact on the incidence of the different TB forms (sputum smear positive pulmonary (SSP-PTB)), sputum smear negative (SSN-PTB) and extrapulmonary (EPTB)).

We have measured TB incidence in a retrospective cohort of HIV infected persons who started HAART in four HIV/AIDS treatment centres in Ouagadougou, Burkina Faso. All consecutive HIV-seropositive patients aged ≥15 yrs, TB-free at HAART initiation, with a follow-up of 12 months or longer were included in the analysis. TB diagnosis was based on internationally accepted criteria [10]. Pulmonary TB (PTB) was diagnosed by microscopy (SSP-PTB) or, in the case of SSN-PTB, on algorithms requiring all the following criteria: 1) chest radiography compatible with active TB; 2) unresponsiveness to ≥1 course of large-spectrum antibiotic; and 3) clinician’s decision to prescribe a full course of anti-TB therapy. EPTB was based on the clinician’s decision to prescribe a full course of anti-TB therapy on the basis of evocative clinical signs, radiological findings and biochemistry of body fluids. Routine culture for Mycobacterium tuberculosis is not available in Burkina Faso.

A cohort of 2,383 HIV-seropositive persons were followed-up for a mean period of 836.1 ±443.4 days. More than a half were classified as World Health Organization (WHO) stage III or IV and 83% had a CD4 cell count of <200 cells·µL−1 at HAART initiation. A total of 70 TB cases were diagnosed, including 18 (26%) SSP-PTB, 25 (36%) SSN-PTB and 27 (38%) EPTB. Among the 27 EPTB cases, the most frequent TB sites were lymph node (12 (44%) cases), pleura (5 (18.5%) cases) and peritoneum (4 (15%) cases).

TB incidence declined from 2.80 (95% confidence interval (CI) 1.60–4.54) in the first trimester of HAART to 0.05 (95% CI 0.01–0.16) cases per 100 person−1·yr−1 for ≥12 months after its initiation among SSN-PTB patients, from 1.40 (95% CI 0.60–2.75) to 0.05 (95% CI 0.01–0.16) cases per 100 person−1·yr−1 among SSP-PTB patients, and from 1.57 (95% CI 0.72–2.99) to 0.07 (95% CI 0.02–0.19) cases per 100 person−1·yr−1 among EPTB patients (fig. 1).