survival models as a time-dependent variable. Indeed, a duration of treatment of >3 days cannot explain any event that occurred within the first 3 days of treatment. Excluding early death, as done by the authors, does not solve this issue and even further induces selection bias. Last, while the Fine and Gray model may be interesting for prediction of events in the presence of competing risks, the resulting regression coefficients do not allow any hazard ratio interpretation [3–5]. All the results should thus be interpreted with caution, and we might encourage the authors to reanalyze their data using statistical methods such as cause-specific models to estimate the hazard ratios associated with (time-dependent) duration of antibiotics, without excluding early deaths.

Note

Potential conflicts of interest. All authors: No reported conflicts of interest. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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Reply to Boyer et al

To the Editor—Dr Boyer and colleagues express concern that many of the patients in our study might not have had true ventilator-associated pneumonia (VAP) but rather ventilator-associated tracheobronchitis or atelectasis [1]. We wish to clarify that the purpose of our study was not to prove that very short antibiotic courses are safe in patients with definite VAP but rather to evaluate a possible strategy to de-escalate antibiotics in patients with suspected VAP [2]. The clinical reality is that we have no way of knowing which patients definitely have VAP [3]. Many patients are therefore started on empiric antibiotics for the *possibility* of VAP in accordance with current guidelines, but we know that many of these patients do not in fact have VAP [4–6]. How do we balance between early empiric therapy for possible VAP vs overutilization of antibiotics? We believe we need practical strategies to help clinicians identify suitable candidates for early discontinuation of antibiotics. Our study suggests that assessing serial ventilator settings may be one way to do this.

The letter writers note that our design precluded us knowing whether antimicrobials were administered for a new VAP episode, continuation of previous treatment, or another indication. We included a sensitivity analysis restricted to patients assigned a new diagnosis code for pneumonia or VAP at the same time that a pulmonary culture was obtained and antibiotics were started in order to increase specificity. The letter writers also indicate that we did not assess antibiotic appropriateness. This is true, but if some fraction of the short-course regimens were inappropriate, then similar outcomes in the short-course and long-course group would appear to be further reassurance that patients with possible VAP but minimal and stable ventilator settings do not require prolonged antibiotic courses. Inappropriate regimens are less of a concern with patients receiving >3 days of antibiotics since they are more likely to be informed by culture.

Boyer and colleagues further note that patients in our study were not randomized to 1–3 vs >3 days of treatment but were assigned to these groups on the basis of their effective duration of antibiotics and excluded if early death precluded a clinical decision about how long to treat. These choices could have introduced confounding due to differences in baseline and/or time-dependent covariates between groups. We agree, and therefore included a rich array of covariates including demographics, comorbidities, temperature, leukocyte count, Gram stain neutrophils, culture result, and vasopressor requirement. Boyer and colleagues also state that the Fine and Gray model's regression coefficients do not allow for hazard ratios. This is true when considering any one outcome alone (eg, extubation alive) because a competing risk (eg, ventilator death) could preclude all patients from experiencing the outcome, but if one considers all the subdistribution hazard ratios we reported upon together (extubation alive and ventilator death, hospital discharge and hospital death), the results collectively support the hypothesis that short-course treatment appears safe.

Ultimately, we concur that our study's single-center, retrospective design bears inherent limitations. We acknowledged that "our findings may have been confounded by unmeasured differences between the short-course and long-course populations. In particular, clinicians may have selected patients for shorter courses because they were less ill, because their pneumonias were less severe, or because they were less confident about the diagnosis." We therefore consider our study a preliminary investigation that yielded a promising but nondefinitive result. We continue to believe that the next step is a randomized controlled trial that can better assess whether very short courses are indeed safe for patients with suspected VAP but minimal and stable ventilator settings.

Notes

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Additional Details for Improved Reporting of Tuberculous Meningitis Studies

To the Editor—We read with great interest the article by Marais et al emphasizing the need for uniformity in reporting patients with tuberculous meningitis (TBM) [1]. The suggested guidelines for standardized reporting and structured recording are highly desirable and would vastly improve comparability of data across studies and regions of the world.

In the same context, we wish to suggest additional details that may be included in the suggested guidelines. Additional symptoms such as irritability and poor appetite are relevant for young children and infants and therefore merit consideration. Clinical examination findings such as lymphadenopathy and choroid tubercles should be included and can give a clue to the diagnosis of TBM. Extrapyramidal movements are common in TBM and are often overlooked or misinterpreted as decorticate or decerebrate posturing [2]. We suggest that these should be included in the details recorded. Furthermore, sodium and water hemostasis is frequently disrupted in TBM meningitis; hence, we suggest that laboratory investigations should include a record of lowest sodium level, urine output, urine sodium, urine-specific gravity, and serial weight. This would allow for knowledge of complications such as syndrome of inappropriate diuretic secretion, central salt wasting, and diabetes insipidus.

In the section on treatment, the type of regimen used (daily or intermittent thrice weekly) should find a mention. Similarly, the corticosteroid regimen used should specify the duration of intravenous therapy/oral therapy and the nature of steroid (prednisolone or dexamethasone). Importantly, findings infrequently reported are an extension of intensive phase (with rationale) or an extension of corticosteroid duration. These can also be included in the list of treatment-related details. The option for reporting of repeated therapeutic lumbar puncture (LP) as a measure to manage communicating hydrocephalus is lacking in the current guidelines. A knowledge of the number of LPs, the mean/median interval between LPs, and time to last LP may help physicians in planning the best treatment strategy for cerebrospinal fluid (CSF) diversion [3]. Findings on CSF examination during follow-up may also be considered [4]. Though frequency of ventriculoperitoneal shunt is commonly described, data on number of shunt revisions in a given patient, frequency of external ventricular drainage (EVD), complications of EVD, and conversion of EVD to ventriculoperitoneal shunt would add to the information on surgical procedures that are employed to manage patients with TBM [5]. Other hospitalization and supportive care–related complications like use of concomitant antibiotics (due to diagnostic uncertainty), suspected or proven healthcare-associated bloodstream infection, time to defervescence, need for tracheostomy, time to extubation, the number of extubation failures, and other intensive care–related complications may also be recorded. A note of the above events helps in documenting the true burden and resource utilization due to the disease.

Baseline neuroimaging has been adequately evaluated in patients with TBM. However, findings of serial neuroimaging in the same patient are often not discussed or reported. We suggest that these be included in the follow-up section of the guidelines. We also suggest that outcomes recorded should include the presence and nature of epilepsy and duration of antiepileptic drug used.

Finally, the modified Medical Research Council staging has been traditionally used for severity staging; the use of severity scores such as pediatric risk of mortality (PRISM) or the equivalent in children or APACHE II (Acute Physiology and Chronic Health Evaluation II) in adults would be desirable to score extraneurological impairments in individuals with TBM.

We suggest that inclusion of more information may make the reporting of TBM-related details more comprehensive. With this complete and extended reporting of TBM-related complications, we expect to enhance the quality of reporting in the future.

Note

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