Reply to Kesav et al

To the Editor—We read the letter of Kesav et al [1] with great interest, and we are pleased to see the reflections from our report on neurobrucellosis [2]. We would like to emphasize some important points regarding the diagnosis and treatment of neurobrucellosis.

Cerebrospinal fluid (CSF) findings (abnormal tube agglutination of isolation of bacteria) are still one of the most important supportive tool for diagnosis, although they could be negative in some cases. Performing CSF analysis could be difficult in limited-resource settings, but still is a valuable tool in diagnosis. The sensitivity of tube agglutination in CSF was 0.94, specificity 0.96, positive predictive value 0.94, and negative predictive value 0.96 by using a cutoff of $\geq$1/8. Regarding the lack of positivity in some neurobrucellosis cases, we broadened the definition of neurobrucellosis, and we defined neurobrucellosis with presence of any 1 of these findings: (1) symptoms and signs consistent with neurobrucellosis; (2) isolation of *Brucella* spp from CSF and/or presence of anti-*Brucella* antibodies in CSF; (3) the presence of lymphocytosis, increased protein levels, and decreased glucose levels in CSF; or (4) diagnostic findings in cranial magnetic resonance imaging or computed tomography. This definition keeps its validity in also resource-poor settings, where performing some tests would not be possible.

We agree with Kesav et al [1] that tuberculosis is one of the diseases to be considered in the differential diagnosis of neurobrucellosis. However, the clinical findings of neurobrucellosis are so diverse that a unique diagnostic clinical feature of neurobrucellosis is not

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likely to differ from tuberculosis or any other neurologic disease including multiple sclerosis [3–6]. A thorough review of all the clinical and laboratory findings is essential to make a satisfactory differential diagnosis.

There are different therapeutic strategies for the management of neurobrucellosis. Published reports suffer from limitations such as lack of randomization and lack of power. There is still no consensus for choice of antibiotic, dose, and duration of the treatment for neurobrucellosis [2]. Dual or triple combination therapy with doxycycline, rifampicin, trimethoprim-sulfamethoxazole, streptomycin, or ceftriaxone for >2 months was recommended. Administration of ceftriaxone is a common application in some centers, but there is no evidence of the superiority of using ceftriaxone additional to the treatment regimen. Antimicrobial treatment was continued for >6 months for some cases. It is obvious that the duration of therapy for neurobrucellosis is longer. We did not use corticosteroids for our patients, and we think that the corticosteroids could be exceptionally considered for some complications of neurobrucellosis, but not as a part of regular therapy.

In conclusion, we believe that as the modern medicine develops and as the solid research methodology disseminates toward resource-poor countries, we will learn more about neurobrucellosis.

Note

Potential conflicts of interest. All authors: No reported conflicts.

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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