

Reply: Multiresistant Tuberculosis and Its Paradoxical Manifestations

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Dear editor:

We appreciate the interesting and insightful comments made by Hernández to the recently published case report in the March 2016 issue of *Infection & Chemotherapy* [1]. Hernández pointed out that the treatment for tuberculosis involving the brain should be reviewed for paradoxical responses. Such responses are detected based on the results of the drug susceptibility testing for mycobacteria [2].

In our case, the patient complained of a headache 30 days after initiating anti-tuberculosis medication. At this time, we had only received the results of rapid resistant tests for isoniazid and rifampin. After administering a steroid and substituting isoniazid and rifampin with moxifloxacin and amikacin, her symptoms rapidly improved. We considered that the sensitive drugs were effective during the initial period. However, the patient experienced headache again after 60 days of medication even after adding two sensitive drugs. Concomitantly, we performed a complete drug sensitivity test for tuberculosis, and substituted PZA and EMB with cycloserine and linezolid, because the treatment for multidrug-resistant tuberculosis can be effective with at least four sensitive drugs [3]. Regarding the second symptom of headache, a paradoxical response to tuberculosis could explain the aggravated symptoms despite undergoing adequate treatment [2, 4]. As Hernandez in-

dicated, the results of a drug sensitivity test are particularly important when poor signs and symptoms are noted during the course of treatment.

A paradoxical response is observed in approximately one-third of patients with tuberculous meningitis, and is known to occur frequently in women and in patients with shorter duration of illness [4]. In our case, disseminated tuberculosis involving brain with a likely high burden of acid-fast bacilli was observed in a female patient and tended to show a paradoxical response. With the increasing incidence of multidrug resistant tuberculosis, the success of the treatment for tuberculosis involving brain may depend on whether the drug resistant test is performed adequately despite the difficulty in obtaining the sample cultures.

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References

1. Jung EK, Chang JY, Lee YP, Chung MK, Seo EK, Koo HS, Choi HJ. A case of disseminated multidrug-resistant tu-

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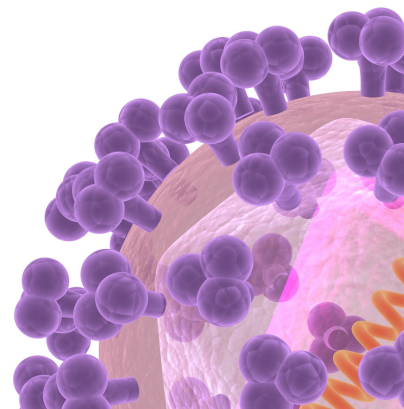
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- berculosis involving the Brain. *Infect Chemother* 2016;48:41-6.
2. Afghani B, Lieberman JM. Paradoxical enlargement or development of intracranial tuberculomas during therapy: case report and review. *Clin Infect Dis* 1994;19:1092-9
 3. World Health Organization (WHO). Guidelines for the programmatic management of drug-resistant tuberculosis, 2011. Available at: http://whqlibdoc.who.int/publications/2011/9789241501583_eng.pdf. Accessed 10 July 2014.
 4. Singh AK, Malhotra HS, Garg RK, Jain A, Kumar N, Kohli N, Verma R, Sharma PK. Paradoxical reaction in tuberculosis meningitis: presentation, predictors and impact on prognosis. *BMC Infect Dis* 2016;16:306