2. The authors implied isolation of *Rhodococcus* from culture media, but they initiated empirical therapy without performing antimicrobial drug susceptibility test. The antibiogram test is necessary for appropriate treatment of *Rhodococcus* infection and decreasing antibiotic resistance burden.

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Author's Response

We thank Ghazvini et al for their comment to the case report "*Rhodococcus equi* Pneumonia in a Kidney Transplant Recipient Affected by Acute Intermittent Porphyria" [1].

As precisely reported by the authors, *Rhodococcus equi* is Gram-positive, occasionally acid-fast, bacterium living in soil water, decaying plant and stool of herbivores [2]. In humans, *Rhodococcus equi* causes opportunistic infections occurring principally in immunosuppressed patients, including solid organ and hematopoietic stem cell recipients and people living with human immunodeficiency virus. Given that *Rhodococcus equi* is widely present in the environment, impairment of the immune response rather than exposure to the pathogen has been considered the main predisposing factor for the development of this infection.

Rhodococcus equi infection frequently involves lung parenchyma and manifests with pneumonia, high fever, fatigue and chest pain. Extrapulmonary organ involvement occurs only in 25% of cases [3].

In the last decades, ameliorations of the laboratory techniques for the identification of *Rhodococcus species* has increased the rate of recognition of this bacterium. The pathogen is commonly detected from biological specimens such as sputum, bronchoalveolar lavage fluid, pleural fluid, abscess aspirate, peritoneal fluid, cerebrospinal fluid, lymph nodes, and tissue culture from any suspected affected organ. Positive blood culture is seen only in patients with hematogenous spread of lung infection [2].

Rhodococcus equi regularly grows on enriched media including blood and chocolate agar. On Sabouraud agar and purple lactose agar, the colonies turn salmon-pink due to the production of a characteristic substance. *Rhodococcus equi* is a facultative intracellular pathogen that resides in macrophages and causes granulomatous inflammation. It is a slow-growing bacterium without hemolytic activity when cultured in blood agar. Its shape changes from coccoid form in solid media to long curved clubbed form in liquid media.

In our laboratory, *Rhodococcus equi* grew on sheep blood and chocolate agar after 7 days of incubation. Identification of the *Rhodococcus* species occurred by the structural characterization of mycolic acids through mass spectrometry [4]. According to the European Committee on Antimicrobial Susceptibility Testing (EUCAST) guidelines [5], the pathogen was susceptible to levofloxacin (minimal inhibitory concentration [MIC] of 1 MIC mg/L). MIC testing was also performed for erythromycin, vancomycin, and teicoplanin (MIC of 12, 0.38, and 0.50, respectively), but antimicrobic sensitivity was not furnished because EUCAST did not recommend any interpretive breakpoints. Our choice to treat *Rhodococcus equi* infection with azithromycin and meropenem was based both on the ability of azithromycin to have intracellular penetration and the documented in-vitro activity of meropenem against *Rhodococcus equi* [6]. Although we are aware that antimicrobial susceptibility testing is necessary for appropriate treatment of infections, in vitro antimicrobial susceptibilities of *Rhodococcus equi* are not standardized; therefore, antibiotic choice is still essentially based on single-center experience.

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