

Dear editor and reviewer,

Thanks for evaluating the manuscript (NO: 74185) entitled "Catheter-related infections caused by *Mycobacterium abscessus* in a patient with motor neurone disease: a case report". We have modified our manuscript as the reviewer's suggestions point-by-point. As indicated in the responses to the reviewer, we have tried to be responsive to the comments. Our responses to comments of the reviewer as following:

Reviewers' Comments to Author:

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: Title is apt and conveys the right insight. Abstract seems to be too brief. A background on the importance of this not so common pathogen needs to be mentioned in the abstract.

Response: Thanks for your professional review. We have added a background on the importance of this not so common pathogen in the revised manuscript as follows: *Mycobacterium abscessus* (*M. abscessus*) is a rapidly growing mycobacterium and ubiquitous in the environment, which infrequently causes disease in humans. However, it can cause cutaneous or respiratory infections among immunocompromised hosts. Due to the resistance to most antibiotics, the pathogen is formidable and difficult-to-treat. Please check it (page 3, line 33-37).

Introduction is satisfactory but should include the incidence and severity of disease caused by the pathogen.

Response: Thanks for your professional review. We have rephrased "Introduction" in the revised manuscript as follows: *Mycobacterium abscessus* (*M. abscessus*) is a rapidly growing non-tuberculous mycobacteria and ubiquitous in the environment [1].

Recent gene sequence analysis showed that *M. abscessus* can be divided into three different subspecies (*M. abscessus subsp. bolletii*, *M. abscessus subsp. abscessus* and *M. abscessus subsp. massiliense*) [2]. *M. abscessus* can cause a variety of clinical manifestations including cutaneous infections, catheter-related infections, post-surgical soft tissue infections and respiratory diseases [3]. Besides, the incidence of pulmonary non-tuberculous mycobacteria infection has been increasing [4]. Of all the rapidly growing mycobacteria, *M. abscessus* is the most common cause of pulmonary infections. It is also one of the mycobacteria that are most often isolated from patients with cystic fibrosis [5]. However, *M. abscessus* is resistant to most antibiotics in vitro, and thus is a formidable and difficult-to-treat pathogen [6]. At present, little is known regarding the diagnosis and management of catheter-related *M. abscessus* infections due to only limited numbers of cases have been reported. Here, we present a case of catheter-related *M. abscessus* infections in a patient with motor neurone disease. Please check it (page 4, line 60-74).

1. Rodríguez-García R, Espina Angulo MJ, Escudero Augusto D. Cutaneous infection with Mycobacterium abscessus. Intensive care medicine 2018;44:2292-2293
2. Aziz DB, Low JL, Wu ML, et al. Rifabutin Is Active against Mycobacterium abscessus Complex. Antimicrobial agents and chemotherapy 2017;61
3. Gutiérrez AV, Viljoen A, Ghigo E, Herrmann JL, Kremer L. Glycopeptidolipids, a Double-Edged Sword of the Mycobacterium abscessus Complex. Frontiers in microbiology 2018;9:1145
4. Benwill JL, Wallace RJ, Jr. Mycobacterium abscessus: challenges in diagnosis and treatment. Current opinion in infectious diseases 2014;27:506-510
5. Petrini B. Mycobacterium abscessus: an emerging rapid-growing potential pathogen. APMIS : acta pathologica, microbiologica, et immunologica Scandinavica 2006;114:319-328
6. Koh WJ, Jeon K, Lee NY, et al. Clinical significance of differentiation of Mycobacterium massiliense from Mycobacterium abscessus. American journal of

Case report is well elaborated. Discussion needs to stress on the pathogenicity of the organisms as well as more elaboration on clinical features of this infection.

Response: Thanks for your professional review. We have added the pathogenicity of the organisms as well as clinical features of this infection in the revised manuscript as follows: *M. abscessus* was a terrible and difficult-to-treat mycobacterial pathogen, which is resistant to most antibiotics in vitro [7]. They were ubiquitous in the environment including soil, water and dust, and survived extreme temperatures and nutritional deprivation [8]. It can cause soft tissue and skin infections after surgical procedures or trauma, pulmonary infections and disseminated diseases among immunocompromised hosts [9]. Infections in immunocompetent patients tend to be more localized, and usually due to contamination of wounds or abrasions with soil, water, dust, or other materials [10]. While, infections in immunosuppressed patients are often deeper and more diffuse, involving subcutaneous tissue, and leading to formation of abscess. Catheter-related infections often occurred in the setting of central venous access devices [11]. In present study, we present a case of catheter-related *M. abscessus* infections in a patient with motor neurone disease.

Catheter-related bloodstream infection (CRBSI) is the most common complication associated with the use of intravascular catheters [12]. Our patient was a 62-year-old man with motor neurone disease. He had been treated in our hospital for many times due to respiratory failure, shock and electrolyte disorder. During the hospitalization, the patient used PICC for blood controls, which was high risk factor for CRBSI. No other obvious source of bloodstream infection was found, except for PICC. He presented with fever, and mild skin edema at the site of PICC. Routine blood tests revealed elevated white blood cells and neutrophils, procalcitonin and C-reactive protein. Please check them (page 7-8).

7. Griffith DE, Brown-Elliott BA, Benwill JL, Wallace RJ, Jr. Mycobacterium abscessus. "Pleased to meet you, hope you guess my name...". Annals of the

American Thoracic Society 2015;12:436-439

8. Mooren V, Bleeker MWP, van Ingen J, Hermans MHA, Wever PC. Disseminated Mycobacterium abscessus infection in a peritoneal dialysis patient. IDCases 2017;9:6-7
9. Bechara C, Macheras E, Heym B, Pages A, Auffret N. Mycobacterium abscessus skin infection after tattooing: first case report and review of the literature. Dermatology (Basel, Switzerland) 2010;221:1-4
10. Drage LA, Ecker PM, Orenstein R, Phillips PK, Edson RS. An outbreak of Mycobacterium chelonae infections in tattoos. Journal of the American Academy of Dermatology 2010;62:501-506
11. Xie O, Khan S, Globan M, et al. Mycobacterium abscessus bloodstream infection: Unexpected catheter tunnel infection localized by PET/CT. Transplant infectious disease : an official journal of the Transplantation Society 2019;21:e13147
12. Ruiz-Ruigómez M, Fernández-Ruiz M, San-Juan R, et al. Impact of duration of antibiotic therapy in central venous catheter-related bloodstream infection due to Gram-negative bacilli. The Journal of antimicrobial chemotherapy 2020;75:3049-3055

Grammar check for correction of tenses is necessary.

Response: Thanks for your kind review and suggestions. We have rechecked the grammar and spelling of the article. In addition, the revised manuscript has been edited under help of English native speakers. We have added the detail in the revised manuscript, and upload the language certificate, please check it.

Conclusion is satisfactory. Figures are quite illustrative. Overall a very interesting case report.

Response: We appreciate your accurate summary of this manuscript. These comments are all valuable and very helpful for revising and improving the quality of our manuscript.

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: Dear Author;

1. Physical examination findings were repeated under the title of Laboratory examinations. It is convenient to remove.

Response: Thanks for your professional review. We are sorry for making the mistake. We have removed this part in the title of Laboratory examinations, please check it.

2. The site of the peripherally inserted central venous catheter should be specified (jugular, subclavian, femoral?)

Response: Thanks for your professional review. The site of the peripherally inserted central venous catheter was median cubital vein. We have added that in the revised manuscript, please check it (page 5, line 77-78).

3. It should be stated how many days the peripherally placed central venous catheter has been inserted at the time of admission to the hospital (it should be clearly written as 30 days in the text).

Response: Thanks for your professional review. We have rephrased this sentence in the revised manuscript as follows: In February 6, a 62-year-old Chinese man presented with mild skin edema at the site of peripherally inserted central venous catheter (PICC, median cubital vein) which had been inserted for 30 days, without skin redness and inflammatory exudation. Please check it (page 5, line 76-79).

#### EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and

suggestions, which are listed below:

(1) Science editor:

This manuscript presents a case of duct-associated *Mycobacterium abscessus* infection in a patient with motor neuron disease. Please indicate the site of the designated peripherally inserted central venous catheter, the number of days the peripherally inserted central venous catheter was inserted at the time of admission should be stated, the Discussion section recommends emphasizing the pathogenicity of the organism, and more elaboration on the clinical features of this infection.

Language Quality: Grade B (Minor language polishing)

Scientific Quality: Grade C (Good)

**Response: Thanks for your professional review. According to your suggestion, we have added these information in the revised manuscript, please check it.**

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Clinical Cases, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before its final acceptance, the author(s) must provide the Signed Consent for Treatment Form(s) or Document(s). Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the

copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022.

Response: Thanks for your professional review. According to your suggestion, we have uploaded all files, please check it.

We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval.

Once again, thank you very much for your comments and suggestions.

Best regards

Ji-Liang Wang