Dear Editor and Reviewers,

We are pleased to submit our revised manuscript (NO: 83093), titled " Chronic pulmonary mucormycosis caused by Rhizopus microsporus mimics lung carcinoma in an immunocompetent adult: A case report." We have thoroughly revised the paper based on the valuable feedback provided by the reviewers. We have carefully addressed each comment to enhance the quality and accuracy of the manuscript. We are grateful for the time and effort you have invested in reviewing our work and believe that the revised version meets the high standards for publication in the World Journal of Clinical Cases.

Thank you for your time and consideration.

Sincerely,
Xing-Zi Guo, Liang-Hui Gong, Wen-Xiang Wang, Deng-Song Yang, Bai-Hua Zhang, Ze-Tao Zhou, and Xiao-Hui Yu

Point-by-point response to the reviewers' comments:

Reviewer #1:
Scientific Quality: Grade B (Very good)
Language Quality: Grade A (Priority publishing)
Conclusion: Accept (General priority)
Specific Comments to Authors: Journal World Journal of Clinical Cases Manuscript Chronic pulmonary mucormycosis caused by Rhizopus microsporus mimics lung carcinoma in an immunocompetent adult: A case report Type Case report This is an interesting and well-written case report describing a 43-year-old man diagnosed with chronic pulmonary mucormycosis caused by Rhizopus microsporus in a middle-aged male without dysglycemia or immunodeficiency The patient's surgical outcome was good, reaffirming that surgery is the cornerstone of pulmonary mucormycosis treatment. I recommend a minor revision. Please see some minor observations: 1- Introduction, page 5, line 9. Worldwide? 2- If possible, hospital name and ethics approval or patient approval should be included in the methods 3- mNGS methodology should be included in the methods section 4- Discussion, page 10. Lines 20-26 pathogenic infections are prone to develop in conditions of immunocompromising/immune alteration (PMID: 34970247). This information,

which supports the study findings, should be included 5- Discussion, page 11, line 1, I suggest mitigating this point. For evaluating the immunological status of the patient, the total IgG levels should be evaluated.

1- Introduction, page 5, line 9. Worldwide?

Reply:

We agree with this suggestion and have made the following modifications to the article:

…Pulmonary mucormycosis is an aggressive and rapidly progressive infection that carries a poor clinical prognosis, with a mortality rate as high as 50-60% worldwide[4,5]…

2- If possible, hospital name and ethics approval or patient approval should be included in the methods.

Reply:

We agree with this suggestion, and the hospital name and patient approval have been submitted to the module responsible for Signed Consent for Treatment Form(s) or Document(s).

3- mNGS methodology should be included in the methods section.

Reply:

The mNGS methodology has been standardized by various organizations and research groups through the development of standard operating procedures (SOPs) and guidelines for sample collection, processing, sequencing, data analysis, and quality control, as well as the publication of standardization protocols such as MIxS-mNGS guidelines. Thus, in this case report, we solely state the method of specimen acquisition and provide the name and date of the performing company as follows：

…To determine the cause of the granuloma, we excised the clean granuloma tissue approximately 0.5 cm3 in size and sent it for clinical metagenomic next-generation sequencing (mNGS) …

…The results of mNGS analysis for the left lower lobe granuloma were obtained on the second day after the operation. The analysis suggested an infection caused by Rhizopus microsporus, and no other pathogenic microorganisms, including bacteria, viruses, parasites, mycobacteria, mycoplasma, or chlamydia, were detected. The analysis was performed by Precision Genes Technology, Inc. on August 25, 2022…

4- Discussion, page 10. Lines 20-26 pathogenic infections are prone to develop in conditions of

immunocompromising/immune alteration (PMID: 34970247). This information, which supports the study findings, should be included.

Reply:

We agree with this suggestion and have made the following modifications to the article:

…Pulmonary mucormycosis is a relatively uncommon opportunistic infection that primarily occurs in immunocompromised populations, with risk factors including diabetes mellitus, hematologic malignancy, neutropenia, or transplantation[12,13] …

12 Roden MM, Zaoutis TE, Buchanan WL, Knudsen TA, Sarkisova TA, Schaufele RL, Sein M, Sein T, Chiou CC, Chu JH, Kontoyiannis DP, Walsh TJ. Epidemiology and outcome of zygomycosis: a review of 929 reported cases. *Clin Infect Dis* 2005; **41**: 634-653 [PMID: 16080086 DOI: 10.1086/432579]

13 Petrikkos G, Skiada A, Lortholary O, Roilides E, Walsh TJ, Kontoyiannis DP. Epidemiology and clinical manifestations of mucormycosis. *Clin Infect Dis* 2012; **54 Suppl 1**: S23-34 [PMID: 22247442 DOI: 10.1093/cid/cir866]

5- Discussion, page 11, line 1, I suggest mitigating this point. For evaluating the immunological status of the patient, the total IgG levels should be evaluated.

Reply:

We agree with this view. Total IgG levels can serve as a diagnostic tool for certain immune system disorders such as immunodeficiencies, autoimmune diseases, and allergies. Low IgG levels may indicate an immunodeficiency, while high levels may indicate an autoimmune disease or allergy.

It is regrettable that the patient's initial diagnosis presumed a combination of pulmonary malignancy and obstructive pneumonia, which resulted in the failure to test the patient's IgG level before surgery. However, the results of the patient's preoperative blood draw showed a total protein level of 81 g/L (reference range: 60-78 g/L) and a globulin level of 37 g/L (reference range: 20-35 g/L). As Immunoglobulin G (IgG) accounts for approximately 75% of the globulin fraction, it is likely that the patient's preoperative IgG level is within normal or high limits.

So, we have made the following modifications to the article:

…The laboratory test results were as follows: white blood cell count was 9.54×10^9/L, neutrophil percentage was 52%, hemoglobin was 151 g/L, hematocrit was 47.1%, fasting blood glucose was 5.5 mmol/L, total protein level was 81 g/L, and globulin level was 37 g/L…

Reviewer #2:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: The article presents a case report of Pulmonary Mucormycosis in an immunocompetent adult. The article is well-written and discusses the approach to its management. However, the role of antifungal with surgical excision should include antifungal. Any previous history of SARS-CoV-2 infection should be included in the case report.

1. The article presents a case report of Pulmonary Mucormycosis in an immunocompetent adult. The article is well-written and discusses the approach to its management.

Reply:

Thank you for your positive review of our article on Pulmonary Mucormycosis management in an immunocompetent adult. We are delighted that you found it well-written and informative. Your feedback is valuable to us, and we hope that the article will raise awareness and assist healthcare professionals in their clinical practice.

2. However, the role of antifungal with surgical excision should include antifungal.

Reply:

I completely agree with your suggestion that a combination of surgical debridement, antifungal therapy, and elimination of predisposing factors is usually necessary to improve the outcome of mucormycosis infections. However, in our case, the patient presented with only mild preoperative infection symptoms and recovered well after surgery. Despite our repeated insistence on the necessity of antifungal therapy, the patient refused further postoperative antifungal treatment due to concerns about drug side effects and high follow-up treatment costs. Nevertheless, follow-up CT scans of the patient's chest at three and six months after surgery showed satisfactory results without any signs of recurrence.

So, we have made the following modifications to the article:

…Despite our repeated insistence on the necessity of antifungal therapy, the patient refused any further antifungal treatment postoperatively. The patient cited mild preoperative infection symptoms, satisfactory postoperative recovery, concerns about potential drug side effects, and high follow-up treatment costs as reasons for declining the treatment. Nevertheless, follow-up CT scans of the patient's chest at three and six months after surgery showed satisfactory results without any signs of recurrence…

3. Any previous history of SARS-CoV-2 infection should be included in the case report.

Reply:

SARS-CoV-2 is a novel coronavirus that causes COVID-19. I strongly endorse the recommendation to document a history of COVID-19 infection, given the increasing number of reports of mucormycosis cases in patients with prior COVID-19 diagnoses. Most cases involve individuals with underlying diabetes who were administered steroids for COVID-19 and typically occur two to three weeks after the initial COVID-19 diagnosis. However, in our case, the patient denied a history of COVID-19 infection. The patient was diagnosed with Mucormyces pneumonia on August 25, 2022, which was much earlier than the widespread transmission of COVID-19 in Hunan, China in December 2022.

So, we have made the following modifications to the article:

…The patient did not report any prior history of surgeries, trauma, severe infections, or significant medical conditions. Additionally, the patient denied any previous infection with COVID-19…