

RE: Manuscript NO: 74317

Title: Management of hip fracture in COVID-19 infected patients

**Company editor-in-chief comments:**

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Orthopedics, 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. 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.

Response to Company editor-in-chief: Thank you very much for your constructive suggestions. According to your suggestion, we have prepared and arrange all the pictures into one PowerPoint file as you required. The comments have been valuable in ensuring we produce a high-quality manuscript and have also been informative in guiding our research. We have reviewed the comments carefully and have made corrections with the hope that they meet the reviewers' standards. We have answered the reviewer's comments carefully and step by step as follows. Revised portions are marked in **blue** throughout the paper, and added content to the manuscript are also highlighted with **red** text. We have also sent our article to a professional English language editing service to improve its readability. These changes have substantially improved our manuscript while preserving the content and general framework. Once again, we appreciate the reviewers' and editor's careful review of our work and thank you for your comments and suggestions.

**Science Editor comments:**

This manuscript is a review on the impact of COVID-19 on hip fractures. Please add a note on whether asymptomatic COVID-19 patients also have high mortality and surgical approaches (ORIF or BHA, THA) have different outcomes. Also, an exploration of muscle damage during and after COVID-19, and the mobility impairment syndrome that occurs in patients with fragility fractures, including those with hip fractures.

Response to Science Editor:

Thank you for your valuable advice. In view of your opinion, we have carried out an expanded discussion.

Q1: Please add a note on whether asymptomatic COVID-19 patients also have high mortality and surgical approaches (ORIF or BHA, THA) have different outcomes.

In our extensive literature search, we did not find articles expounding whether asymptomatic COVID-19 infection could impose direct impact on mortality or prognosis in patients with hip fracture. However, we added this to our perspective for future research. It is hoped that future research will be able to help this type of patient

Besides, we also discussed which surgical procedures are recommended for patients with hip fracture and COVID-19 infection.

Q2: Also, an exploration of muscle damage during and after COVID-19, and the mobility impairment syndrome that occurs in patients with fragility fractures, including those with hip fractures.

The point you mentioned is indeed not reflected in the article. So, we read the article recommended by the reviewer and amplified this content in the article. Muscle atrophy as a complication of COVID-19 infection affects the prognosis of elderly patients with hip fracture in various aspects.

### **Reviewer(s)' Comments to Author:**

Reviewer: 1

Comments to the Author:

Specific Comments to Authors: The main limitation of the manuscript is the lack of Information and indications about the muscle wasting in patients with hip fractures, considering that this complication is a risk factor for poor surgical and rehabilitative outcomes in the post-surgical period. To address this limitation, I suggest to refer to some articles to describe the muscle damage during and after COVID-19, as well as the dysmobility syndrome occurring in patients with fragility fractures, including those with hip fractures. 1. Welch C, Greig C, Masud T, Wilson D, Jackson TA. COVID-19 and Acute Sarcopenia. *Aging Dis.* 2020 Dec 1;11(6):1345-1351. doi: 10.14336/AD.2020.1014. 2. Iolascon G, Moretti A, Giamattei MT, Migliaccio S, Gimigliano F. Prevalent fragility fractures as risk factor for skeletal muscle function deficit and dysmobility syndrome in post-menopausal women. *Aging Clin Exp Res.* 2015 Oct;27 Suppl 1:S11-6. doi: 10.1007/s40520-015-0417-1.

Muscle atrophy is indeed a common complication of fracture injury. We have included the promotion of COVID to this complication. At the end of the article, the management of these patients should be improved.

Reviewer(s)' Comments to Author:

Reviewer: 2

Comments to the Author:

Specific Comments to Authors: Dear, author Thank you very much for allowing me to peer review. This is a REVIEW of a paper on the effects of COVID-19 on hip fracture. The content is excellent and contains a lot of useful information for clinicians. I think the content is worthy of publication in its current form. However, I have two questions. ·Do asymptomatic COVID-19 patients also have a high mortality rate? ·Does the outcome differ depending on the anesthesia (spinal or general) and surgical method (ORIF or BHA, THA)? If you can, please include your findings on these two questions in your paper. Another important issue is whether the spread of the vaccine will reduce the mortality rate, and we hope that research will continue.

Response to Reviewer 2: Thank you for your kind suggestions. We have made detailed modifications for the deficiencies you mentioned.

Q1:

Do asymptomatic COVID-19 patients also have a high mortality rate?

Answered in the science editor's question

Q2:

Does the outcome differ depending on the anesthesia (spinal or general) and surgical method (ORIF or BHA, THA)?

Answered in the science editor's question

Q3:

Another important issue is whether the spread of the vaccine will reduce the mortality rate, and we hope that research will continue.

After reading the literature, we found that vaccination is of great benefit to elderly patients and hospitalized patients, so I think this can be added to the recommendations for post-operative care. However, no cohort study has demonstrated the effect of vaccination on COVID positive patients with hip fracture. This is also a direction of future research.