

Dear Editor,

We would like to thank you for accepting to reconsider our manuscript titled: “*Osteosarcopenia and Geriatric Hip Fractures. Current Concepts*” for publication in the World Journal of Orthopaedics. We would also like to thank the reviewers and Editor for their insightful comments. All points raised are addressed and the manuscript was revised according to their suggestions. The required files have been also uploaded.

For reviewing purposes, the comments have been addressed one by one and all text changes in the manuscript have been highlighted.

Regarding specific comments:

**REVIEWER #1**

*Comment:* The mini-view lacked a short description of the diagnosis of both osteoporosis and sarcopenia, especially the latter one. Osteoporosis is divided into grades according to bone mineral densitometry (BMD).

**Response:** Thank you for the comment. A short description has been added in the manuscript.

*Comment:* The mini-review did not describe which level of osteoporosis is correlated with sarcopenia. It would be more beneficial to consider this point while revising this article.

**Response:** Thank you for the comment. To our knowledge, there is no related data / bibliography whether a specific level of osteoporosis is correlated with sarcopenia

*Comment:* More detail is required in the introduction regarding the symptoms and causes of sarcopenia.

**Response:** Thank you for the comment. We have added few details about symptoms and causes in the revised manuscript.

*Comment: Sarcopenia as a disorder is not dealt with well enough in orthopedic communities, which may be due to a lack of awareness of its importance in the etiology of fragility fractures and during the rehabilitation of the patient postoperatively. The author concentrates only on the geriatric age. Is there a correlation between osteoporosis and sarcopenia in younger people with musculoskeletal or neurological diseases that may be congenital, developmental, or acquired? Declaring this point during revision will improve this article's quality and scientific level and increase the chance of its acceptance for publication in scientific journals*

**Response:** Thank you for the comment. As osteosarcopenia constitutes mainly a major geriatric syndrome, this minireview focuses on osteosarcopenic hip fractures in geriatric population. However, there are some reports regarding osteosarcopenia in younger adults. Corresponding bibliography has been added in the revised manuscript.

## **REVIEWER #2**

*Comment: Weaknesses Lack of Original Data: While the manuscript provides a valuable synthesis of existing literature, it does not include any original data or novel findings. This limits its contribution to advancing the field beyond a summary of current knowledge.*

**Response:** Thank you for your comment. In the current minireview we provide the most recent data on osteosarcopenia in hip-fractured patients after a thorough literature search. This paper aims to serve as a benchmark of current/contemporary knowledge for anybody interested in this topic.

*Comment: Limited Discussion on Treatment Modalities: The manuscript focuses primarily on the prevalence and molecular aspects of osteosarcopenia, with less emphasis on current treatment*

*modalities and their effectiveness. A more detailed discussion on existing treatments and potential therapeutic targets could enhance the manuscript's utility for clinicians*

**Response:** Thank you for the comment. Regarding the current available treatment modalities, several studies assessing the effect of denosumab and bisphosphonates on osteoporosis or sarcopenia have been added in the revised manuscript. However, there are no specific protocols, guidelines or evidence-based recommendations related to the treatment of sarcopenia. In addition, and as the management of osteoporosis is a well-known and described issue among the ortho community, no further details have been provided.

*Comment: Inconsistency in Reporting of Study Results: The presentation of study results varies in terms of depth and detail. For instance, while some studies are discussed in detail, others are only briefly mentioned. A more consistent approach to reporting would strengthen the manuscript's overall coherence and allow for a better comparison of findings across studies.*

**Response:** Thank you for your comment. We elected to elaborate on the most relevant and valid clinical studies. However, we have extended the description of most studies by adding more information on statistics and other parameters. Please find more details in the revised manuscript.

*Comment: Potential Bias in Study Selection: The manuscript relies heavily on studies that support the association between osteosarcopenia and increased risk of hip fractures and mortality. While this is a valid focus, a more balanced presentation of studies that may not support this association or present conflicting results would provide a more comprehensive view of the current evidence.*

**Response:** Thank you for the comment. According to your instructions we have tried to present the available data in a more balanced way. Therefore, we have included two studies (Balogun et al, Scott et al) that did not support the correlation between

osteosarcopenia and high mortality risk. The relevant part of the manuscript has been modified accordingly.

*Comment: Suggestions for Improvement Incorporate Original Research: Consider conducting a meta-analysis or systematic review to synthesize existing data in a more quantitative manner, potentially uncovering new insights or trends not evident from qualitative review alone.*

**Response:** Thank you for the comment. We agree that a meta-analysis would be beneficial to draw some clear conclusions. However, this is not currently feasible due to the limited number and quality of the existing studies in the literature.

*Comment: Expand on Treatment Strategies: Include a section dedicated to discussing current treatment approaches for osteosarcopenia, their limitations, and potential areas for innovation. This could involve reviewing pharmacological interventions, physical therapy programs, and emerging therapeutic targets identified in recent research.*

**Response:** Thank you for the comment. Currently, there are no specific guidelines for the treatment of osteosarcopenia. We have added a few studies on pharmacological interventions used to address the problems of osteoporosis and sarcopenia in hip fractured patients.

*Comment: Standardize Reporting of Study Results: Develop a standardized format for presenting study findings, ensuring that key details such as sample size, methodology, and main outcomes are consistently reported for each study discussed. This will facilitate easier comparison and synthesis of evidence.*

**Response:** Thank you for the comment. We have provided more details regarding the sample size, methodology and outcomes for most of the studies discussed in the revised manuscript.

*Comment: Address Potential Conflicts and Limitations: Discuss any potential biases in study selection or interpretation of results, acknowledging limitations in the current evidence base. This will demonstrate a critical approach to the literature and enhance the manuscript's credibility.*

**Response:** Thank you for the comment. We acknowledge that the quality of the studies discussed in our manuscript is variable. Nevertheless, we present the most significant up to date research in this field. It is clear that better quality studies are needed in the near future.

### **REVIEWER #3**

*Comment 1. In some sections, the language used is a bit technical and could be made more accessible to a broader audience.*

**Response:** Thank you for the comment. We believe that the language is tailored to orthopaedic surgeon with adequate basis in the molecular aspects of the conditions discussed. We also believe that this article will serve as an initiative for younger colleagues to increase their interest in both clinical and basic understanding of the conditions discussed. However, we have tried to clarify any potential issues that could cause confusion to readers.

*Comment 2. The transition between different sections could be smoother. For instance, when moving from the prevalence and mortality section to the molecular insights section, a more explicit connection could be made to show how the lack of understanding of prevalence and the presence of mortality risks have led to the need for molecular research. This would improve the logical flow of the review and help readers better understand the overall context and progression of the research in this field.*

**Response:** Thank you for the comment. We have tried to address this issue and the manuscript has been modified accordingly.

*Comment 3.* In the part discussing the prevalence and mortality of osteosarcopenia, more detailed analysis and comparison of the different studies could be provided. Currently, while the authors mention the heterogeneity of results and possible reasons, a more in-depth discussion on how these differences impact the overall understanding of the prevalence and its relationship with hip fractures would strengthen the review. This could involve a more systematic comparison of study designs, sample sizes, and populations across the cited studies to draw more conclusive inferences. **Response:** Thank you for the comment. As mentioned before, a systematic review or a meta-analysis would be beneficial to draw some clear conclusions. However, this is not currently feasible due to the limited number and quality of the existing studies in the literature. This is a mini-review trying to shed light on the current available research and initiate discussion and further investigation of the topic. Nevertheless, we have provided more details of the studies discussed in the revised manuscript.

*Comment 4:* The conclusion could be more forward-looking and action-oriented. Instead of just summarizing the current state, it could suggest specific future research directions and potential clinical implications in more detail. For example, what are the next steps in biomarker research? How could the current understanding of muscle-bone crosstalk be translated into practical pain management strategies? This would give the review a more practical and impactful ending, guiding future research and clinical practice in the field of osteosarcopenia and hip fractures. Overall, the review is a valuable contribution to the field, and with these improvements in wording and structure, it could have an even greater impact and utility for readers interested in this important area of geriatric health.

**Response:** Thank you for the comment. According to your instructions, the conclusion section of the article has been modified and re-written.

## **EDITORIAL OFFICE'S COMMENTS:**

### **2 Specific comments**

*Comment (2) The language classification is Grade A, Grade A and Grade B. Please provide the latest language certificate after Return the Manuscript to Author for Revision. Please visit the following website for the professional English language editing companies that we recommend: <https://www.wjgnet.com/bpg/gerinfo/240>.*

**Response:** Thank you for the comment. Language corrections have been implemented.

*Comment (3) Manuscript Title: Except for capitalization of the first word, all other words are represented in lowercase (excluding specific words such as Crohn's disease).*

**Response:** Thank you for the comment. The manuscript title has been corrected accordingly.

*Comment (4) Authors and institution(s): Author names should be written out first (as first name, middle name initial (with no period) and family (sur)name) and typed in bold, followed by a comma and the complete name of the affiliated institution, city, province/state, postcode and country typed in non-bold.*

**Response:** Thank you for the comment. The authors details and institutions have been written in accordance with the instructions.

*Comment (5) Please add the "Author contributions": The 'Author contributions' passage describes the specific contribution(s) made by each author. The author's names will be listed in the following format: full family (sur)name, followed by abbreviated first and middle names. For example, Bryan L Copple should be revised as Copple BL.*

**Response:** Thank you for the comment. Author contributions have been written in the proper way.

*Comment (6) The "Key Words" does not meet the requirements:*

**Response:** Thank you for the comment. Key Words have been corrected accordingly.

*Comment (7) Audio Core Tip: In order to attract readers to read the full-text article, we request that the first author make an audio file describing the final core tip. This audio file will be published online, along with the article. The author can invite English language editing company to assist in resolving the language issues of Audio Core Tip.*

**Response:** An Audio Core Tip file has been also uploaded.

*Comment (8) Reference numbers in the main text.*

*The format of in-text citation of references should be [References Number].*

**Response:** Thank you for the comment. Reference numbers have been corrected accordingly.

*Comment (9) There are issues with the references:*



*Please provide the PMID numbers (<https://pubmed.ncbi.nlm.nih.gov/>) and DOI citation numbers (<https://doi.crossref.org/simpleTextQuery>) to the reference list and list all authors of the references. If a reference has no PMID and DOI, please provide the source website address of this reference.*

**Response:** Thank you for the comment. References have been corrected in a way to include PMID and doi , as well as the names of all authors.

*Comment (10) The author(s) must add a table/figure to the manuscript. There are no restrictions on the figures (color, B/W) and tables.*

**Response:** Thank you for the comment. One Figure has been added to the manuscript.

*Comment (11) Abstract. An informative, unstructured abstract of no more than 200 words should accompany each manuscript.*

**Response:** Thank you for the comment. The abstract has been corrected to include less than 200 words.

Once again, we would like to thank you and the reviewers for your time and effort. Please do not hesitate to contact me for any further clarifications and corrections regarding the submitted Manuscript.

Yours sincerely,

Corresponding Author