

Response Letter to Reviewer:

Thank you for your precious revision, comments and suggestions. We reviewed the paper following all the recommendations.

In particular:

- We improved the English writing. We edited English and words, trying also to correct all the grammatical and syntax errors.
- We corrected all the spelling mistakes, both in abstract and main manuscript.
- we have corrected all the sentences that you mentioned and indicated to correct
- We clarified and explained occupational hazard in exclusion criteria.
- We clarified methods used for examining grades of osteolysis, including a new original picture.
- We have standardized all units of measurement used for the quantification of metal ions
- We provided all the Standard deviations for every result.
- we have clarified the methodology for linear regression calculations, clarifying positivity, coefficient etc.
- We removed all the initials for patients in tables and graphs.
- we mentioned the “alval” lesions, contextualizing them in literature and emphasizing the significance of the elevations of metal ion values.
- We clarified the limit of our study lacking of standardized MRI for patients.
- We included the references you suggested, contextualizing them in the discussion.

Thank you very much again.

Response letter to Editor:

Thank you for your indications. We modified all the formats as guidelines and you suggestions.

In particular:

- We corrected all formats for abbreviations, both in abstract and in main manuscript and in tables and figures.
- We shortened the title as guidelines indicates
- We provided “Highlights section”.
- We created PPTs for figures and Tables.

Thank you very much again.