Peer Review File

Comment 1: The author makes a valuable bibliometric revision of the articles relative to an important and difficult topic.

Nevertheless, the kind of information that has been analyzed in the article is not useful in clinical practice and it doesn´t add any further information for facing a very difficult clinical scenario as upper cervical spine instability.

Maybe the authors should consider submit the manuscript to a journal focused on medical bibliometric field.
Reply 1: Thank you for your feedback.

Comment 2: I would recommend that you cite the characteristics of upper cervical spine instability. There is a major opportunity to summarize the subject of the publications despite them not being uniform.
Reply 2: Reply 2: Thank you for the opportunity for revision and enhancement. Key points and statistics from the five cited articles were described.
Changes in the text: See Page 2, lines 25-35

Comment 3: A forest plot would also be recommended. Please see my attached comments.
Reply 3: Thank you for the comment. A forest plot was included in the study. This was included to address the comment in the marked-up manuscript. It demonstrates the effects of different article types on the level of evidence found in this study. This improved the value of this study and highlights the need for more high-quality studies that tend to be categorized as biomechanics, clinical descriptions and outcomes.
Changes in the text: See Figure 6 and Pages 10-11, lines 227-229

Comment 4: There is a distinct difference between the upper cervical spine instability; atlanto-occipital dislocation/dissociation; atlantoaxial displacement/instability. You need to describe the differences and which studies stratify into each category. An atlantoaxial rotatory instability is vastly different than traumatic atlanto-occipital dissociation.
Reply 4: Thank you for your feedback. A brief overview of all pathologies was added to the discussion section. In addition, the difference between pathologies was discussed
Changes in the text: See Pages 6-8, Lines 126-178

Comment 5: Requires a forest plot to describe adequately.
Reply 5: Thank you for your feedback. A forest plot was included to demonstrate the effects of article type on the level of evidence. Please let us know if you had a different plot in mind.
Changes in the text: See Figure 6 and Pages 10-11, lines 227-229

Comment 6: Again there are major inconsistencies between your definitions (or lack of) regarding the presentation of upper cervical spine instability. By stating you only have articles pertaining to atlanto-occipital instability then you need to define this as a bibliometric review of only atlanto-occipital instability.
Reply 6: Understood, thank you for your feedback. We attempted to provide a broad overview of all instability from occiput to C2. This is a broad topic, however our goal was to summarize the landmark studies.

Comment 7: The study does not add any information to the readership in the field of spinal pathologies.
In addition, there are multiple important studies from the last 5 years you did not consider.
Reply 7: Thank you for your feedback. We have altered our discussion to include why studies from the last 5 years may have been excluded. Because of the fact that we used the number of citations as a barometer for the most influential publications, there is a lag time involved with including newer publications. For this reason, more recent studies, despite their potential impact, may have been excluded in our search.

Comment 8: 1. It is not clear why 181 out of 287 papers were excluded. Please update the PRISMA flow diagram with the reasons for each level of exclusion.
Reply 8: Thank you for your feedback. A new PRISMA diagram was created with more specific steps and exclusion criteria that was used is included.
Changes in the text: PRISMA diagram updated
Change in Text: Please see revised Figure 1 and discussion on page 3, lines 48-56

Comment 9: 2. Please discuss the recent meta-analysis on post-traumatic craniovertebral dislocation which backs up your findings that most papers regarding upper C spine instability are level 5 evidence (case reports): Klepinowski, T. et al. Management of post-traumatic craniovertebral junction dislocation: A PRISMA-compliant systematic review and meta-analysis of casereports. Neurosurg Rev 44, 1391–1400 (2021). https://doi.org/10.1007/s10143-020-01366-4
Reply 9: Thank you for including this paper. We have included the discussion of this article in the discussion section
Changes in the text: See Page 11, lines 231-235.

Comment 10: Please go through the article and correct minor punctuation errors. The article is well designed. Although the practical value of the paper is questionable, it is readable and could be published once the corrections are made

Reply 10: Thank you for your feedback, we have corrected all grammatical and punctuation errors to the best of our ability.

Changes in the text: Corrected several punctuation errors

Comment 11: 1. There is no description of what is the main objective of this study?

Reply 11: Thank you for your feedbackThe objective has been updated in both the abstract and the introduction section.

Changes in the text: See Page 2, lines 41-43.

Comment 12: Merely the goal was to highlight the publications with OC and AO instability?

Reply 12: Thank you, we have updated our abstract and introduction to reflect the goals of the study which were to highlight landmark studies pertaining to instability of occiput to C2.

Changes in the text: Updated abstract and introduction to include goals of study.

Comment 13: Did authors discuss the rationale behind the diagnosis and to me it appears that it is lacking significantly.

Reply 13: Thank you for your feedback. We have included a brief discussion of all the included pathologies as well as the diagnostic criteria.

Changes in the text: See Pages 6-8, Lines 126-178

Comment 14: Did authors discuss these two conditions separately since the diagnosis, and treatment paradigm is separate.

Reply 14: Understood, thank you for your feedback. We have attempted to give a broad overview of all pathologies from occiput to C2. In doing so, it is difficult to discuss in depth treatment paradigms without making the article overly lengthy. Nonetheless, we have added a brief sentence in the discussion section regarding treatment.

Changes in the text: See Pages 6-8, Lines 126-178

Comment 15: Why authors did not discuss the treatment rationale. Can authors discuss the treatment rationale? There is plethora of literature on this.

Reply 15: Thank you for your feedback, treatment rationale is an important component of this topic and would benefit readers. We have added brief description of treatment and rationale to discussion of all pathologies in discussion section

Changes in the text: See Pages 6-8, Lines 126-178

Comment 16: There is no focus on neurological pathologies that originate from this?

Reply 16: Thank you for your feedback, this information would be beneficial to clinicians interested in upper cervical spine instability. We have included potential symptoms and neurologic pathology that may result from upper cervical spine instability.
Changes in the text: See Pages 6-8, Lines 126-178

Comment 17: Pediatric and adult population are two different subsets and the pathologies are diagnosed and treated differently in the realm of OC and AO instability.
Reply 17: Thank you for your feedback. We have expanded the discussion to provide a brief overview of all pathologies, adult and pediatric and ways in which they differ.
Changes in the text: See Pages 6-8, Lines 126-178