Reviewer’s report

Title: Ratio and difference of the cross-sectional area of median nerve to ulnar nerve in diagnosing carpal tunnel syndrome: a case control study

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Reviewer: Maria Pilar Aparisi Gomez

Reviewer's report:

Thank you very much for your submission.

Your study seeks to establish what is the level of accuracy for the measurement of median-to-ulnar nerve ratio (MUR) and median-to-ulnar nerve difference (MUD), measured by ultrasound, in patients with carpal tunnel syndrome. With this purpose, you compare 32 affected patients with 32 asymptomatic patients, and find good results by introducing the use of MUD added to MUR.

Thank you very much for the opportunity to review this scientific paper.

This is a well-structured and well-presented study.

The limitations have been satisfactorily detected. These limitations do not affect the validity of the results to be used in a reasonably ample sector of the population. It is noted though, that the parameters of MUR and MUD will be more sensitive in patients in which the pathology is more severe and therefore there is the possibility that diagnosis will have been possible by other techniques.

Overall, the use of language and expressions is satisfactory.

These are some specific (minor) comments:

In your introduction, (page 6, line 9) you propose the use of the ratio and difference of the CSA of the median nerve to that of the ulnar nerve at the pisiform level as ultrasonographic diagnostic criteria for CTS, through the evaluation of MUR and MUD.

This is correctly expanded in the discussion, but it would be recommended to briefly introduce the reasons behind the selection of these parameters for the study, and give a little bit of background on the use of this particular approach (comparison with ulnar nerve) to the diagnosis of carpal tunnel syndrome.
As a suggestion, to avoid confusion with the format of the references in some cases, it would be recommended to either not use numbers between brackets when listing items - the criteria for exclusion, for example - or as an alternative perhaps use alphabet characters or roman numerals. Numbering the items is perhaps not always necessary (when there are two items, for example).

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

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I am able to assess the statistics

**Quality of written English**
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Acceptable

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