OPEN PEER REVIEW

Open Peer Review (OPR)

As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Open Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

What is "Open Peer Review" process?

An "Open Peer Review" process is making the details of all review process (including reviewers, associate editors, and EICs comments) as "Public" as it is agreed by EIC, Authors, and reviewers.

Advantages of "Open Peer Review" process

- More transparency, constructiveness and tactful comments of the peer review process: leads to an increase in the quality of reviews
- More motivations for all involved roles in the review process
- Authors' satisfactions from the review process: Increases honesty between authors and reviewers
- Education of both authors and new students
- Prevents reviewers from following their individual agendas and leading to the detection of reviewers' conflicts of interests

You can find out more at:
https://sites.kowsarpub.com/kowsar/knowledgebase/category/tree.html#opr.html

Iranian Journal of Radiology
Article DOI: 10.5812/iranjradiol.85626
Published in: Iranian Journal of Radiology: 16(4); e85626

Peer Review Report for "Effect of Artifact Reduction on the Diagnosis of Vertical Root Fracture in Teeth with Posts Using CBCT"

Author(s): Sima Nikneshan , Pouria Javaheri, Hoora Hadian

Review Timeline:

Submit Date: 21 Oct 2018
Revised Date: 7 Oct 2019
Accepted Date: 15 Oct 2019

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (0) — 25 Nov 2018

Dear AE,
Some correction need for this article:
1. Abstract: the results are written in numerical form.
2. Reference N#12 has been corrected and the publication year of the article is mentioned.
3. It is better the references will be updated.
4. there is not any CBCT images in this article, please add some images.
Thanks.

REFEREE: Reviewer | **Revision** (0) — 29 Dec 2018

Dear AE,
There are some comments which should be addressed by the author:
1- Please separate the background and objective parts in the abstract according to the journal format. It is better this part summarized.
2- Please follow the journal format in writing the paper. for example, we need only one objective [please integrate general and applied objectives together], in addition, please rearrange the method section in lower subtitles as materials selection, material preparation, imaging method, data collection, and analysis.

3- Please follow the latest version of the STARD guideline in writing the paper.
4- the authors mentioned in sample size: “was determined 32 per group” that is 31, not 32. Please correct.
5- Please add in the method section the indications for teeth extraction.
6- Were all fractures a linear fracture?
7- This part is unclear. please write in a better way: “The definite indicator includes the 0 and 4 cases in the 5-point scale, in which observer has definitely stated the presence or absence of a fracture. Also, the total indicator includes 0, 1, 3, and 4 cases, taking into account possible plus definite cases. Since radiographic detection of a root fracture is expressed as a probability, the total indicator appears to be a more comprehensive indicator for comparing the results.”
8- Please ad in a method that the blinding was considered for different observers regarding all aspects of data gathering. [if it has been considered]
9- As we have three radiologists, we need three inter-observer reliability indices.
10- What was the intra-observer repeatability coefficient and inter-observer repeatability coefficient? Were they ICC? Please denote exactly in the paper.
Thanks

REFEREE: Reviewer | **Revision** (0) 30 Dec 2018

Dear AE,
Thank you for the review opportunity;
1- Please define which imaging plane were used for evaluation.
2- The discussion part is too long.please correct this part.
3- English grammatical correction is necessary.
4- Why the authors used 5 -option scale for this evaluation???

With regards

REFEREE: Associate Editor | **Revision** (0) 31 Dec 2018

Dear EIC,
The manuscript is studied, and there are some comments which should be addressed by the author. According to the comments, the document needs major revision.
Kind regards,
Associate Editor

REFEREE: EIC | **Revision** (0) 31 Dec 2018

Dear Author,
Your article is reviewed by the reviewers carefully. According to their comments, this document needs major revision. Please follow their comments as requested.
Thanks.

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reply to editors:

Reviewer 1:

Dear associate editor;
Thank you for review apportunity;

-please define whitch imaging plane were used for evaluation.
-The discussion part is too long.please correct this part.
-English grammatical correction is necessary.
-why the authors used 5 -option scale for this evaluation???

Dear reviewer1:thank you for the time spending on our study.
1.The images was analyzed in all planes (coronal sagittal and axial)we mentioned it in the article now.

2.we deleted 3 paragraph of the discussion now which was less important.

3.we used 5 option scale because evaluation of the artifact is the qualitative and in the same articles they used this method in the references .

With regards

Reviewer 2:
85626
1-please separate background and objective parts in abstract according to journal format. Iti sbetter this part summarized.
2-please follow journal format in writing the paper. for example, we need only one objective [please integrate general and applied objectives together], in addition, please rearrange the method section in lower subtitles as materials selection, material preparation, imaging method, data collection and analysis.
3-please follow latest version of STARD guideline in writing the paper.
4-the authors mentioned in sample size: "was determined 32 per group" that is 31 not 32. Please correct.
5-please add in method section the indications for teeth extraction.
6-were all fractures a linear fracture?
7-this part is unclear.please write in better way: "The definite indicator includes the 0 and 4 cases in the 5-point scale, in which observer has definitely stated the presence or absence of a fracture. Also, total indicator includes 0, 1, 3, and 4 cases, taking into account possible plus definite cases. Since radiographic detection of a root fracture is expressed as probability, the total indicator appears to be a more comprehensive indicator for comparing the results."
8-please ad in methid that the blinding were considered for different observers regarding all aspects of data gathering. [if it has been considered]
9-as we have three radiologists, we need three intr-observer reliability indices.
10-what were the intra-observer repeatability coefficient and inter-observer repeatability coefficient? Were they ICC? Please denote exactly in paper.

Thank you for your kind opinions.

1. **now we separate background and objective parts in abstract according to journal format.**
2. **Just done. we integrate objectives to gather.now we have one objective.**
3. **Just done .**
4. **We correct it in article .its now 31.**
5. **We wrote it in the method section as the ethical consideration .the teeth were extracted with periodontal disease or extracted as a part of orthodontic treatment plan.**
6. **No .as the fractures made with instrone device ,they made in all directions and didn't have regular or only linear form.**
7. **This part was wrote in more clear sentences and highlighted in yellow.**
8. **Now we add this sentence in the method because it has been considered.**
9. **That's right,With regard to the article we have 3 Intra observer repeatability coefficient:**

40	**55**	**45**	**without AR**
60	**70**	**40**	**with AR**

Inter observer agreement: poor be cause of artifacts.

Reviewer 3:
Dear chief in editor:

some correction need for this article:
Abstract: the results are written in numerical form .
Reference N#12 has been corrected and the publication year of the article is mentioned.
It is better the references will be updated.
there is not any CBCT images in this article, please add some imagedeas.

Thank you for your suggestions.

Reference number now is corrected .
We add 3 images from CBCT now.

King regards

OPEN PEER REVIEW

Revision (1)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (1) 12 Mar 2019

Dear AE,
This article is accepted "Effect of artifact reduction on the diagnosis of vertical root fracture in teeth with posts using CBCT " after the corrections.
Thanks.

REFEREE: Reviewer | **Revision** (1) 3 Apr 2019

Dear AE,
The authors have corrected and responded to many parts. there are some parts to be responded and completed as follows:
1- Authors stated: “To calculate the intra-observer coefficient……” intra-observer coefficient is unclear. The authors should mention it as an intra-observer reliability coefficient. In addition, sentence: “Also, repeatability and inter-observer and intra-observer were assessed using agreement coefficient.” Should be: “Also, inter-observer and intra-observer reliabilities were assessed using agreement coefficient.” Please revise and correct all similar situations in the paper.
2- In response to a question about fracture line pattern authors mentioned: ” as the fractures made with Instron device, they made in all directions and didn’t have regular or only linear form.” While the title reminds us that all fractures should be vertical. Please explain this ambiguity; as the diagnostic efficacy of vertical fractures could be different from horizontal or oblique fractures and if the cases are mixed of vertical and other forms of fractures, we cannot generalize the results to the vertical fractures.
3- Please explain the difference between the definite presence of a fracture with the definite possibility of a fracture in the paper. in addition, please explain the difference between the definite absence of a fracture with the definite possibility of a fracture in the paper.
4- The rating system of fracture is based on 1-5 while the authors mentioned 0-4. This could make confusion. Please correct.
5- Again, this sentence is unclear: “The definite indicator was 0 and 4 in the 5-point scale, in which observer has definitely stated the presence or absence of a fracture indicator includes 0, 1, 3, and 4 cases show possibility plus definite case” please write in more clear form. In addition, I think for better clarification, the authors explain in the paper that which subgroups were considered as a positive fracture in calculating definite sensitivity and which ones were considered as positive in calculating total sensitivity. This will elucidate the method of calculating definite and total for specificity, PPV, and NPV.

6- I asked the authors: “what were the intra-observer repeatability coefficient and inter-observer repeatability coefficient? Were they ICC? Please denote exactly in the paper. but the authors did not respond to this question and did not clarify in the paper. please add the response in the paper.
Thanks.

REFEREE: Reviewer | **Revision (1)** 7 Apr 2019

Dear AE,
The study is reviewed carefully. According to comments and revisions by the author, this manuscript is accepted.
Thanks

REFEREE: Associate Editor | **Revision (1)** 8 Apr 2019

Dear EIC,
The article needs major revision.
Best Regards

REFEREE: EIC | **Revision (1)** 8 Apr 2019

Dear Author,
Your article is reviewed by the reviewers carefully. According to their comments, this document needs major revision. Please follow their comments as requested.
Thanks.

OPEN PEER REVIEW

Revision (2)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reviewers' Comments:

Reviewer 1:
accept

Reply:Thank you.

Reviewer 2:
Dear chief in editor:
this article is accepted "Effect of artifact reduction on the diagnosis of vertical root fracture in teeth with posts using CBCT " after the corrections .

Reply :Thank you.

Reviewer 3:
the authors have corrected and responded many parts. there are some parts to be responded and completed as follows:
1-Authors stated: "To calculate the intra-observer coefficient… … … " intra-observer coefficient is unclear. The authors should mention it as: intra-observer reliability coefficient. In addition, sentence: "Also, repeatability and inter-observer and intra-observer were assessed using agreement coefficient." Should be: "Also, inter-observer and intra-observer reliabilities were assessed using agreement coefficient." Please revise and correct all similar situations in paper.

Reply:Thank you for your consideration.All the part now is corrected .i highlighted them in red blue and green.

2-in response to a question about fracture line pattern authors mentioned: "" as the fractures made with instrone device, they made in all directions and didnt have regular or only linear form." While the title reminds us that all fractures should be vertical. Please explain this ambiguity; as the diagnostic efficacy of vertical fractures could be different from horizontal or oblique fractures and if the cases are mixed of vertical and other forms of fractures, we cannot generalize the results to the vertical fractures.

Reply:From all the teeth applied with instron only the teeth with VRF(31teeth) and the ther ones excluded. the dye penetrated in the line of fracture was visible as a dark blue line on the surface of the root. Thus, presence or absence of vertical root fracture in samples was confirmed. I write it clearly now in the article.

3-please explain the difference between definite presence of a fracture with definite possibility of a fracture in paper. in addition, please explain difference between definite absence of a fracture with definite possibility of a fracture in paper.

Definite presence of vrf: radiolucent line from external of tooth to pulpchamber is extended and in 3 orthogonal plane and in some interval can be detected and vice versa.

Possibility of VRF: the line in all 3 orthogonal plane can't be detected and in on plane(axial ,coronal or sagittal)can be detected and vice versa.

4-the rating system of fracture are based on 1-5 while the authors mentioned 0-4. This could make confusion. Please correct.

Reply: done.

5-again, this sentence is unclear: "The definite indicator was 0 and 4 in the 5-point scale, in which observer has definitely stated the presence or absence of a fracture indicator includes 0, 1, 3, and 4 cases show possibility plus definite case" please write in more clear form. In addition, I think for better clarification, the authors explain in paper that which subgroups were considered as positive fracture in calculating definite sensitivity and which ones were considered as positive in calculating total sensitivity. This will elucidate the method of calculating definite and total for specificity, PPV and NPV.

Reply: Total sensivity: 4,5

Total specifity:1,2

Definite sensivity:5

Definitespecifity:1

6-I asked authors: "what were the intra-observer repeatability coefficient and inter-observer repeatability coefficient? Were they ICC? Please denote exactly in paper. but the authors did not respond this question and did not clarify in paper. please add the response in paper.

Reply: The intra-observer reliability coefficient (weighted kappa) was found using agreement coefficient, which was 46.6% with AR option and 56.6% without AR option.so we didn't need Icc.Now I mentioned it in the article.

I am again appreciate you for your kind accurate consideration to our manuscript.

King regards

OPEN PEER REVIEW

Revision (2)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (2) 9 Jun 2019

Dear AE,
The study is reviewed carefully. According to comments and revisions by the author, this manuscript is accepted.
Thanks

REFEREE: Associate Editor | **Revision** (2) 11 Jun 2019

Dear EIC
The reviewer(s) have recommended publication.
Kind regards,
Associate Editor

REFEREE: Associate Editor | **Revision** (2) 18 Jul 2019

Dear EIC,
The author should respond to all comments one by one. Then, highlight any changes in the manuscript.
1- The references are not incorrect orders. You have mentioned 9, then 12. You have mentioned 11 after 12. There is no 13 and 14 before 15. Please check the whole manuscript and make sure all references are incorrect orders.
2- In Figure 3 legend, you have mentioned, “note the second tooth…” Please explain what is seen in the image. What is there seen in the second tooth?
Please clarify.
3- In “Preparation of samples”, “Vertical root fractures were created in 31 randomly selected teeth by an Instron machine (Zwcik/roell, GmbH & Co. KG, Germany) .after that they all had VRF.”
“after that they all had VRF? Isn’t it obvious that they should have VRF when it was created? Please clarify. I believe it would be better to delete it.
4- In the analysis, please mention the details of the manufacturer of SPSS.
5- In Analysis, “Definite presence of VRF: radiolucent line from external of the tooth to pulpchamber is extended in three orthogonal planes and in some interval can be detected and vice versa.
Possibility of VRF: the line in all 3 orthogonal planes can't be detected and in on plane (axial ,coronal, or sagittal)can be detected and vice versa.”

What does vice versa mean? It seems that it is irrelevant. Please clarify.

6- In the discussion, “In a study carried out by Costa et al. (19), with the presence of a post reduced sensitivity and specificity of detection of horizontal root fracture.” This sentence has no verb. Please correct.

7- “The teeth used in the present study had been extracted due to other causes except for our study due to periodontal problems or orthodontic treatments.anyway the consent letter obtained from the patients .the ethical approval of the Shahid Beheshti University of medical sciences declared at the ethical committee as the previous rule of the university only the thesis approved with this criteria get the number of thesis publication number(in this case #3385) thesis number that includes ethical approval of the ethical committee of university.as this study is an in-vitro study it didn’t need ethics code.it is s not on humans or animals.” Is poorly written. Please rewrite it so it is understandable.

Thank you.

REFEREE: EIC | **Revision** (2) 20 Jul 2019

Dear Author,

Your article is reviewed by the reviewers carefully. According to their comments, this document needs minor revision. Please follow their comments as requested.

Thanks.

OPEN PEER REVIEW

Revision (3)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reviewers' Comments:

Reviewer 1:
a

Associate Editor's Comments:

Associate Editor 1:
Accept.
Associate Editor 2:
Dear author,
Please respond to all comments one by one. Then, highlight any changes you make in the manuscript. Please do not make any changes in the manuscript other than responding to the comments, because they will not be considered.

t.
4-In analysis, please mention the details of the manufacturer of SPSS.
5-In Analysis, 'Definite presence of VRF: radiolucent line from external of tooth to pulpchamber is extended in three orthogonal plane and in some interval can be detected and vice versa.
Possibility of VRF: the line in all 3 orthogonal plane can't be detected and in on plane(axial ,coronal or sagittal)can be detected and vice versa."
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7-'The teeth used in the present study had been extracted due to other causes except our study due to periodontal problems or orthodontic treatments.anyway the consent letter obtained from the patients .the ethical approval of the Shahid Beheshti university of medical sciences declared at the ethical committee as previous rule of university only the thesis approved with this criteria get the number of thesis publication number(in this case #3385) thesis number that include ethical approval of the ethical committee of university.as this study is an invitro study it didn't need ethics code.it is s not on human or animals."Is poorly written. Please rewrite it so it is understandable.
Thank you.

EIC Decision:

Minor Revision.

Associated editor 2:

Thank you for your opinions.

1-The references are not in correct order. You have mentioned 9, then 12. You have mentioned 11 after 12. There is no 13 and 14 before 15. Please check the whole manuscript and make sure all

references are in correct order.

1/references are now in correct order.

2- In Figure 3 legend, you have mentioned, 'note the second tooth… "Please explain what is seen in the image. What is there seen in the second tooth?
Please clarify.

Reply:figure 3 is now deleted .it was not necessary.

3-In 'Preparation of samples", 'Vertical root fractures were created in 31 randomly selected teeth by an Instron machine (Zwcik/roell, GmbH & Co. KG, Germany) .after that they all had VRF."
'after that they all had VRF? Isn't it obvious that they should have VRF when it was created. Please clarify. I believe it would be better to delete i

Reply:it is now deleted.

4-In analysis, please mention the details of the manufacturer of SPSS.

Reply:Spsss version 16.

5- 5-In Analysis, 'Definite presence of VRF: radiolucent line from external of tooth to pulpchamber is extended in three orthogonal plane and in some interval can be detected and vice versa.

Reply: the definition is corrected.

6-In the discussion, 'In a study carried out by Costa et al. (19), with the presence of a post reduced sensitivity and specificity of detection of horizontal root fracture."This sentence has no verb. Please correct.

Reply: this item is corrected.

7-"The teeth used in the present study had been extracted due to other causes except our study due to periodontal problems or orthodontic treatments.anyway the consent letter obtained from the patients .the ethical approval of the Shahid Beheshti university of medical sciences declared at the ethical committee as previous rule of university only the thesis approved with this criteria get the number of thesis publication number(in this case #3385) thesis number that include ethical approval of the ethical committee of university.as this study is an invitro study it didn't need ethics code.it is s not on human or animals."Is poorly written. Please rewrite it so it is understandable.

Reply: the paragraph is rewritten.

Thanks for your attention

Best regards

OPEN PEER REVIEW

Revision (3)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

Mehranoosh Dolatshahi: Associate Editor | **Revision** (3) 14 Oct 2019

Dear EIC
The reviewer(s) have recommended publication.
Kind regards,
Associate Editor

REFEREE: EIC | **Revision** (3) 15 Oct 2019

Dear Author,
The document is reviewed carefully by the reviewers. According to their comments and your revisions as requested, this manuscript is accepted.
Thanks.