Author’s response to reviews

Title: Computer-assisted, template-guided immediate implant placement and loading in the mandible: a case report

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Author’s response to reviews:

Dear Editor

Dear Referees

thank you very much for your valuable comments.

After the suggested revisions we think that the manuscript has improved significantly. We hope that the case report will now fulfil the requirements to be accepted for publication in BMC Oral Health.

Kind regards

Reviewer reports:

Jose Eduardo Mate-Sanchez de Val (Reviewer 1):

the abstract must be structured by please eliminate the three points in the conclusions, the text must be in sequence, no points. in addition i do not think the opinion of the patient is relevant here, remove "not accepting being edentulous".

Answer: Amendments were made as suggested.

background line 8 what do you mean with "perioperative"?? you meant "intraoperative"??
Answer: Amendments were made as suggested.

line 13, specific software, you meant here "guided surgery software"?
Answer: Amendments were made as suggested.

line 32-37, not supported by the literature, it looks like opinion of the authors, please erase, or insert pertinent references of articles in which two or more guides are used in sequence, in the same case, in order to try to improve accuracy. I think that also, since you speak about the accuracy, you should mention the most recent systematic reviews and you should report on data, mathematical data emerging from these reviews, in particular to demonstrate the differences in the accuracy in the partially and totally edentulous patient, when using guided surgery. This forms the background for your study.

Answer: Thank you for this comment. Up-to-date review literature was added as suggested. The line was rephrased to clarify between evidence and opinion in the statement.

(However, no clinical study may be performed with the same patient having the implant procedure performed twice in the identical positions in order to really be able to compare two approaches in the same situation. There is still unpublished data from an in-vitro study supporting this message (Katsoulis et al.), therefore we allowed ourselves to place our “opinion” based on unpublished data).

line 41-44 opinion of the authors again, please reformulate with appropriate references or erase this part
Answer: This is an overall experience and does—in our opinion— not need to be supported by evidence (information on the treatment and knowledge about having to leave the office partially edentulous or not is basic).

materials and methods are ok, however some data are missing. Which 3D printer you used? Insert detail of the machine with its full characteristics. It is important.
Answer: Information on the 3D printer and material was added.

figures 2a, 2b are ok but why you didn't take a frontal picture, centered in the midline?
Answer: We can show better the distal parts.

fig. 9b is of poor quality, why not a frontal one?
Answer: We can show better the positioning of the implant according to the prosthetic situation.

fig. 10 is not acceptable for BMC Oral Health in fact the quality is too poor it has to be removed but no issues, you have the final 1-year panoramic.
Answer: We estimate a postoperative radiograph as very important. The quality is acceptable in our opinion for the anterior part in the panoramic may often have some issues (patient with anaesthesia right after surgery). Thus, we would like to keep the figure.

Fig. 12b does not help nobody and must be removed. in general, i suggest to put the pictures representing the different phases together in a multipanel structure. the case is aesthetically acceptable but the upper jaw was not treated and it looks in not proper condition. why you did not solve the prosthetic issues in the upper jaw,

to give the patient a better aesthetic result?

the discussion is too short it looks the authors just talk about their case but they ignore to cite the other similar studies that are available in the current literature, please expand this part

conclusions. too much optimistics for a case report. where are the limitations?

references- section must be expanded obviously considering the most recent systematic reviews on the accuracy of guided surgery

Answer: Up-to-date review literature was added and discussed. However, the case report is not a clinical study to prove accuracy of the applied guided implant placement system, but to emphasize the possibilities connecting digital technology in implantology in the entire workflow. Thus, we do not want to focus too much on the accuracy of guided implant placement.

Marco Tallarico (Reviewer 2):

Dear author, I read carefully your case report. Unfortunately I failed to find it unique and relevant. This is a conventional case of immediate implant placement and loading in the mandible. Following you can find other suggestions, set by step.

Title

- Computer-assisted and template-guided immediate implant placement and immediate loading in the edentulous mandible. A case report.

Patient was not edentulous at the time of treatment. Title should be: Computer-assisted, template-guided immediate implant placement and loading in the mandible: a case report

Answer: Amendments were made as suggested.

Authors' affiliation.

- The purpose of providing author affiliations is to indicate the institution(s) where the research was performed, and to provide readers with a way of contacting the authors.
Please report simple and clear affiliations. Do not use short forms or acronyms. Others authors' notes should be avoided.

Answer: Amendments were made as suggested.

Running head should be: Guided implant placement and loading

Answer: Amendments were made as suggested.

Abstract

- According to the journals' guidelines, background should report "why the case should be reported and its novelty". Please rephrase the background accordingly.

Answer: Background was rephrased.

Case presentation

- Decision finding and treatment approach were based on computer assisted implantology (CAI) technology including detailed virtual three-dimensional implant planning (3Diagnosys).

Decision finding and treatment approach were based on... should be Diagnosis and treatment approach were based on...

Answer: Diagnosis was added.

Computer assisted implantology (CAI) technology should be replaced with Computer-assisted and template-guided technology. Computer-assisted and template-guided technology is already evidenced in the literature, and used by the author in the title. If the authors prefer to use "Computer assisted implantology (CAI)" they have to use it in all the manuscript.

Answer: CAI was used, amendments were made where required.

- FDP have to be defined: Fixed dental prosthesis (FDP).

Answer: Abbrev. Was already introduced (p.2 abstract, p.5 main text)

- Define "a regular healing time"

Answer: More detailed definition was added.

- The use of two templates should be reported in the case presentation.
Conclusion have to be rewritten considering that this is a case report of conventional implant placement and loading. In this way seems that CAI technology is a novel treatment concept. This should create confusion.

Answer: We disagree. In our opinion, the conclusions do not imply that this is an entirely new concept.

Background

- Computer assisted implantology (CAI)...

As I wrote before, I suggest to replace it with Computer-assisted and template-guided...

Answer: CAI was used, amendments were made where required.

- While only few guided implant placement systems were available at the time, today, multiple CAI software are available on the market.

Personally I disagree. Please provide a reference or remove.

Answer: We do not understand on what the referee disagrees. In our opinion the statement does not refer on any scientific data, but describes the market situation today.

- Thus, the guided surgery approach is still controversially discussed (14-16).

I disagree. I know that the procedure is safe and predictable within the published limits and following precise protocol. Please provide updated references or rephrase. Also consider:


Answer: The technique is controversially discussed, as represented in the literature. We agree that there is different data available; Ref. was added and the text rephrased.
- However, a systematic and concise approach performing the single steps in the treatment sequence will allow for accurate guidance and additionally the possibility for using multiple templates with different supports, i.e. teeth and implant support combined in a sequenced order.

This sentence could be removed or moved into discussion section.

- While some patients wish to be informed in detail about the specific treatment steps, most of them want to know whether they would have to leave the dental office without teeth at some point of the treatment. In this context, immediate implant placement after tooth extraction and immediate implant loading with a fixed provisional reconstruction may help the patient as time after extractions and osseointegration is consolidated.

Remove these sentences. According to the CARE guidelines, introduction should report one or two paragraphs summarizing why this case is unique, with references.

- Postoperative morbidity after flapless surgery is significantly improved compared to the traditional open approach, especially in edentulous patients (17, 18).

I think the author meant "Postoperative morbidity after flapless surgery is significantly reduced".


Answer: Thank you for this comment. Text was rephrased and lit. added.

- Later during the treatment, reconstructions fabricated with the help of computer assisted design / computer assisted manufacturing (CAD/CAM) provide highest material quality and aesthetics.

I disagree. CAD/CAM technology provide "high" quality and aesthetic materials. Please change.

Answer: We do not understand on what the referee disagrees as we say the same thing. “Highest” was changed to “high” and rephrasing done.

- Although CAI and CAD/CAM procedures have facilitated towards a straightforward workflow in the rehabilitation of edentulous patients, immediate implant placement and immediate loading protocols combined are complex and required a high level of organization between the implantologist, the technician and the patient.

Please rephrase, reporting why this case is unique.

- The aim of the present report was to report on the feasibility of combined immediate implant placement and loading approach using CAI in the rehabilitation of a patient with a partially dentate mandible asking for a comprehensive treatment and, specifically, not accepting being edentulous all the while.

Personally I failed to find this case unique and/or particular.

Answer: We disagree. Although the referee may be one of the most talented and modern implantologist (meaning that for him personally this is not a particular case), this may not be the case for most other private clinicians. Thus, in our opinion this case reports is well motivated and adds useful clinical information for interested colleagues.

Case report

- The partially dentate 74-year old patient presented with masticatory problems due a removable partial denture (RPD) with insufficient stability in combination with chronic pain condition in the lower front teeth area.

Did the author check and rebase the RPD before suggesting teeth extraction and implants? Did the authors try to perform a periodontal initial therapy with teeth splinting before extraction?

- She asked for a comprehensive treatment that she would fund herself

I did not understand what the authors meant.

- "some teeth with increased mobility grade III"

Did the patient underwent the RPD during night? As the authors know, teeth mobility alone is not primary cause for teeth extraction. Teeth mobility could reduce.

- The initial panoramic radiograph revealed stable crestal bone in the lateral mandible area. What does stable crestal bone mean? How it is possible to define at the panoramic radiograph?
- Thus, focusing on the lower jaw, the single tooth prognosis was fair for the teeth 47, 42 and 33 and hopeless for the teeth 41/31/32 (19)

Answer: please see p.4, last section; text was added to clarify.

As I wrote before. Did the patient underwent the RPD during night? As the authors know, teeth mobility alone is not primary cause for teeth extraction. Teeth mobility could reduce.

- After extraction of the painful and extremely mobile lower front teeth 41/31/32

Please report time between first extractions and guided implant placement.

Answer: Thank you for the point, information was added.

- Extracting the teeth 42 and 33...

Did the author mean extracting the teeth 42 and 33 at the time of implant placement?

Answer: Thank you for the point, text was corrected.

- Based on the anatomical conditions and prosthetic planning (i.e. provisional RPD), six implants were virtually planned.

i.e. provisional RPD... please explain

Answer: Text was added to clarify.

- The template was then removed and the lower canines (previously supporting the guide) were extracted.

Did the author mean... The template was then removed and the teeth 33 and 42 (previously supporting the guide) were extracted.

Answer: Thank you for the correction, text was corrected.

Did the author maintained the same position of the ancor pins? Please explain.

Answer: Text was added to clarify.

- conventional impression Please explain.

Answer: Text was added to clarify.

Did the framework titanium od cobalt-chromium? It is not clear.

Answer: Text was added to clarify.
Authors reported both materials.

Answer: Thank you for the point, text was corrected.

- At the one year follow-up appointment, healthy mucosal and stable crestal peri-implant conditions could be observed

How the authors assessed healthy mucosal and peri-implant conditions? Please report.

Answer: We think that it is too detailed to describe each step of the follow-up appointment. In our opinion it is clear, that a visual, tactile

- Only few case reports are available in literature describing the entire workflow using guided surgery and immediate loading (3, 4).

I completely disagree. For example:


Answer: Thank you for your comment. These are impressive clinical studies with quite a few patients. Of course, they describe the workflow as well. However, these are not case reports itself with detailed step-by-step description of each individual case.

Thus, more Lit. was added in the discussion part and rephrasing done.

- With this approach the passive fit of the FDP was maximized, the clinical chairside efforts (in terms of abutment connection and occlusal adaptations) were minimal and the predictability was very high compared to different limitations and problems reported in a recent review (20).

This review concluded with similar results but only a 12 months, and stated that "Future long-term clinical data are necessary to identify clinical indications". Please rephrase or delete your statement, or change the reference.

Answer: Thank you for your comment. This is exactly what we say, as well. In our opinion there’s nothing wrong about our statement including the ref.
Conclusions

Please, limits the conclusions considering that this is a case report. Also change "CAI technology" in order to avoid confusion within readers.

Answer: Thank you for this comment. Text was rephrased and shortened.

Jérôme Lipowicz, DDS (Reviewer 3):

Excellent case report with efficient and pragmatic findings and good pictures.

Can you give more details on the surgery procedure or at least the used material (surgery kit and those specific abutment that help the second guide) ?

More recent references (<5y) would be appreciated. Regards.

Answer: Thank you for the comments. Information including recent lit. was added.