Author's response to reviews

Title: Infected Forearm Nonunion Treated by Bone Transport after Debridement

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Author's response to reviews:

Dear Sir or Madam:

Thank you for your attention to my article.

Reviewer’s report

Title: Infected Forearm Nonunion Treated by Bone Transport after Debridement

Version: 2 Date: 31 July 2013

Reviewer: Claudia Cicione

Reviewer’s report:

Minor Essential Revisions

In this paper, the authors reported the results of 21 forearm infected nonunions. In the literature, a series of treatment of infected diaphyseal forearm nonunions can be found. In general, the procedures used consist of a combination of aggressive debridement, definitive fixation after 7–14 days, bone grafting for segmental defects, leaving wounds open by secondary intention, using intravenous antibiotics and early mobilization. In this article, Liu T and colleagues used bone transport with external fixators after debridements. The results confirmed that the technique used was safe, effective and minimal invasive treatment of forearm infected nonunions smaller than 6 cm. At this stage, Minor Essential Revisions are required.

The “Abstract” is well done. However, the authors should specify that the cases reported were of no extended bone defect smaller than 6 cm.

Answer: Yes, all the bone defects were smaller than 6.0 cm.

The “Introduction” should be give a larger overview on the matter.

Answer: Thank you for your suggestion, but we only made minor changes in this section, because we given a large overview on the matter in discussion.
This introduction is succinct and goes straight to the point as Tommaso Bonanzinga commented.

“Materials and Methods” section is sufficient described. The authors should delete the comma after the word “range”.

Answer: Thank you for your suggestion, we deleted the comma after the word “range”.

“Results” section is complete. The authors should delete the comma after the word “range” page 6 lines 19, 21 and 22.

Answer: Thank you for your suggestion, we deleted the comma after the word “range”.

The “Discussion” is clear and describes sufficiently both the literature studies and the results of the authors. However, they should correct page 10 lines 15–17 because it is not clear. They should explain better and more clearly what they want to tell to the reader.

Answer: Thank you. We deleted the sentence, because we don't think our opinion is right.

6. The Legends of the Figures are wrong. There are not Fig. 1a, 1b, 1c, 1d and 1e, but Fig. 1, 2, 3, 4 and 5. The authors should correct this error and should add more information to each legend.

Answer: Thank you for your suggestion, we corrected this error and add more information to each legend.

Should the author include in the table 1 if the fractures were proximal or distal?

Answer: Thank you for your suggestion, we added the fracture site in Table 1.

8. The authors should revise the spaces after the dots and before/after the parenthesis.

Answer: Thank you for your suggestion, we revised the spaces after the dots and before/after the parenthesis.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I declare that I have no competing interests
Reviewer's report

Title: Infected Forearm Nonunion Treated by Bone Transport after Debridement

Version: 2 Date: 26 July 2013

Reviewer: Tommaso Bonanzinga

Reviewer's report:

This is an interesting paper on a rare condition. Generally it is well written, but few changes are needed.

First of all they did not number the lines which makes the reviewing process harder.

Answer: Thank you for your suggestion. We numbered the lines.

Please do not write in first person, never use “our study” “we..”.

Answer: Thank you for your suggestion. We changed the written.

Introduction

I like this section because is succinct and goes straight to the point. First sentence needs a reference, further are there any data in the literature suggesting an incidence of this complication?

Answer: Thank you. We did it as your suggestion. However, we did not find any data in the literature suggesting an incidence of this complication.

Last sentence of the the introduction is a limitation and should not be here, remove it and put in the discussion

Answer: Thank you. We did it as your suggestion.

patients and methods

I would make a heading like MATERIAL AND METHODS and then subheading like patients surgical technique and post-operative protocol

Answer: Thank you. We did it as your suggestion.

page 4, line 4, when the authors say nonunion of the radius evolved in 7, … They need to add here “patients”

Answer: Thank you. We did it as your suggestion.

page 4, line 9, when you describe the patients … all the patients had a segment bone defect, and the patients had….remove “the patients had”

Answer: Thank you. We did it as your suggestion.
surgical technique is not a correct subheading since in this section you describe the post-operative care as well (see above)

Answer: Thank you. We did it as your suggestion.

page 5, the first sentence needs a reference

Answer: Thank you. We did it as your suggestion.


for the post-operative care please better describe the antibiotics protocol... all the patients did the same?

Answer: Antibiotic therapy was based on the results of Gram’s stain and culture of organisms from tissue specimens or pus obtained at surgery before beginning antibiotic therapy. After surgery patients were treated with 3 weeks of intravenous antibiotics selected by an infectious disease specialist. Thereafter, patients received appropriate oral antibiotics for 6 months or until the end of surgical treatment.

Results

among the complication where were the pins reapplied in the 5 patients?

Answer: We reapplied the pin in another place of the same bone segment.

In the 4 patients with delayed union and the 2 with poor regenerated bone formation how big was the bone defect after the debridment? For these 6 and for the 3 with recurrent drainage, how long was the follow-up after second treatment?

Answer: Cancellous bone grafting for delayed union at the docking site was required in four patients (19.0%, case 4, case 8, case 16 and case 18), whose bone defects were 2.9 cm, 4.2 cm, 3.8 cm and 3.2 cm respectively. Poor regenerated bone formation was occurred in two limbs (9.5%, case 7 and case 15), whose bone defects were 2.4 cm and 4.1 cm respectively. Three patients (14.3%, case 6, case 10 and case 12) had failures in the form of recurrent drainage, who were followed up more than 50 months after the second surgery.

Discussion

please start with the main finding of the current study

Answer: Thank you. We did it as your suggestion.

second sentence needs a reference, however this was already stated in the
introduction

Answer: Thank you. We did it as your suggestion.

at the end of page 8 when you say that cancellous bone graft it is not enough to fill massive defect you need a reference, and which is the limit?

Answer: Thank you. We added the reference.

The limitation are the healthy tissue may be sacrificed and the grafted bone may be absorbed.

When you mention the Ilizarov method, please explain in what it was superior

Answer: According to the Cierny et al's study, the Ilizarov methods had lower complication rates when comparing with massive cancellous grafts. In addition, Ilizarov reconstructions averaged nine fewer hours in the operating theater, 23 fewer days in the hospital, five fewer months' disability (17 months versus 22 months), and a savings of nearly $30,000 per application.

Page 9, second paragraph, In the present study... bone transport To avoid.. remove the capital letter.

Answer: Thank you. The capital letter needn't remove, because this is the initial word of another sentence.

Further in this paragraph, given that I totally agree with you, use the sentence “In the author opinion” or use references

Answer: Thank you. We did it as your suggestion.

Page 9, last paragraph: It is a critical problem... this sentence is not to clear

Answer: Whether the lengthening area will be infected secondarily when lengthened in patients with infected nonunion.

page 10, when you speak about neurovascular injuries, this data need to be in the results.

Answer: Thank you. In the results section, we said that there were no refractures or neurovascular complications.

page 10 at the end of the page, the sentence: Besides, previous intervention.... Is not to clear

Answer: Thank you. We corrected the sentence.

page 10 when you speak about the advantages of a monolateral external fixation, here would be interesting to compare your data with the ilizarov study, and discuss the differences.

Answer: Thank you. Indeed, your suggestion is an good idea, but we could not
compare our data with the ilizarov study, because there was no study is quite equal to compare.

Which one were your limitations? (one is in the last sentence of the introduction)

Answer: The weaknesses of our study are the absence of a control group and our small number of patients. Nevertheless, we describe a new and successful alternative technique for the treatment of the challenging problem of infected forearm nonunion.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: 'I declare that I have no competing interests.'