Reviewer's report

Title: Maxillary reconstruction to enable implant insertion: a retrospective study of 181 patients.

Version: 1 Date: 1 June 2008

Reviewer: Hanna Thorén

Reviewer's report:

Comments to the title and abstract

The title of the paper is appropriate. The abstract conveys the salient points. However, it would seem appropriate not to use the term resorption in the abstract (or in the other sections) because resorption was not analysed in the present study.

Comments to the purposes of the study

According to the authors this descriptive study has two aims 1. to evaluate different types of maxillary preprosthetic surgery using autogenous bone graft, and 2. to suggest a guideline for maxillary reconstruction for implant surgery. The phrasing of question is interesting and important.

Comments to the Methods section

The authors have retrospectively evaluated the results after bone grafting in 181 patients with maxillary bone deficiency due to different reasons. In relation to the purposes of the study, the method is appropriate and the patient material included is sufficient.

The explanatory variables were 4(-5) different augmentation techniques that the authors have used. Two of the techniques include a Le Fort I osteotomy; one is a one-step procedure and the other is a two-step procedure. The authors describe these two techniques and how the bone grafting was performed in association with these techniques (onlay/sinus lift?) quite briefly and therefore they remain somehow unclear. For a reader who is not already familiar with the techniques of Sailer and Cawood-Stoelinga it would be helpful if the authors would describe the techniques that they have used in detail. This would also help the reader to understand the results in Table I.

Bone measurements were performed before surgery and at follow-up, however, not immediately after the operation. This put some significant limits on the study because the results mainly reveal that transplantation of bone, regardless of method, results in more bone. The significance of the study would certainly increase notably if it would be possible to analyse the immediate postoperative radiographs in order to evaluate the amount of resorption.

Comments to the Results and Discussion section
The results are presented in two tables exclusively and are therefore somehow superficial. It would be interesting to take part of the results in tables 1 and 2 in more detail.

In the Discussion section the authors present some results that do not appear in the Results section and it would be preferable to relegate them to the appropriate location.

In the Discussion section the authors repeatedly cover the quality of the bone in their patients, but these results could not be found in the Results section. It remains unclear, for instance, how the authors came to the conclusion that the quality of the graft was no different in patients who had received a IOSP procedure compared to those who had received a ITSP procedure.

The discussion also covers resorption, however, that was not investigated. Therefore it remains unclear how the authors came to the conclusion that the average resorption was 10% after onlay grafting.

Comments on writing

A lot of important messages in the present article are probably lost due to the fact that the mother tongue of the authors is not English. The quality of language is not very good the paper should be extensively edited by a language consultant. Several typing errors can be found in the reference list.

Conclusion

The article covers very interesting aspects of bone reconstructions in association with dental implantology. I recommend a major revision, particularly with regard to the English language. The methods section should be more detailed. All results covered in the article should be presented in the Results section.

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

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