Research Article

Title: Treatment Evaluation Based on Total Jaw Mini Implants Overdentures. Preliminary Report.

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Abstract

Introduction: Total mandibular conventional dentures have a high degree of discomfort, leading to oral health problems, systemic and psychological level. Furthermore, the use of osseointegrated implants to replace teeth or prosthetic systems removable support may be limited when the amount and / or bone quality is insufficient. Thus, the use of mini implants is an alternative to narrow bone ridges.

Objective: The objective of this study was to evaluate overdentures retained by mini implants as definitive treatment option edentulous jaw in patients of the Health Center of San Bernardo, University of Los Andes, Chile.

Methods: A series of 7 total prosthetically edentulous patients previously treated with conventional dentures and who met the inclusion criteria is presented. Each subject was interforaminales 4 mini implants inserted and the same day of surgery the prosthesis that the patient was carrying, transforming it into an implant retained system (MDI). (Fig. 2-5)

Results: After 6 months of follow-up, survival and success rate of 100% was obtained for implants. VMBL significant difference in bone loss with an average of 0.49 mm, the CAL, with an average decrease of 0.35 mm and PD with an average increase of 0.48 mm were observed. However, IPm and BOP showed no statistically significant differences. Only a prosthodontic had a laceration complication at 3 months was observed and an improvement in the quality of life of patients.

Conclusion: Overdentures retained by mini implants can be considered a successful treatment option for narrow bone ridges (2-3).

Materials and Methods

Surgical and prosthetic stage: Orthopantomography and CBCT with the lower denture doubled in clear acrylic and at 4, 12 and 24 weeks were performed considering the assessment of survival, success, vertical marginal bone level (VMBL), clinical attachment level (CAL), probing depth (PD), modified index plate (IPm), the bleeding on probing (BOP), the prosthetic condition and impact on quality of life of patients.

Clinical and radiographic controls: During use, leading to oral health problems, systemic and psychological level (1). This forces patients to seek new treatment options. Furthermore, the use of osseointegrated implants to replace teeth or prosthetic systems removable support may be limited when the amount and / or bone quality is insufficient. Thus, the use of mini implants is an alternative to narrow bone ridges.

Discussion

The elderly patients can have multiple systemic diseases that limit the possibility of submitting to surgery and / or to receive complex dental procedures. In this study, the overdenture onto MDI was obtained survival and success rates were 100%, which may indicate that might be a suitable definitive treatment option for total mandibular tooth loss.

In evaluating the health indicators peri implant VMBL found that decreased on average 0.49 mm., the CAL decreased by 0.35 mm. and PD increased on average 0.48 mm. with statistically significant variations, however, estimates of the IPm and BOP, no statistically significant differences. Finally this study provides data about a significant improvement in the perception of quality of life related to oral health of patients treated with MDI and mandibular overdentures.

Conclusions

Considering the limitations of this research project it was recently initiated the following preliminary conclusions to the period of observation are obtained: considering the variables studied, overdentures on MDI could be considered as definitive treatment of the mandibular tooth loss in cases of limited bone availability besides providing a significant improvement in the quality of life of patients in relation to oral health. However, further studies should be performed with representative samples and monitoring to validate this therapy in the medium and long term.

Acknowledgements

The authors would like to thank Intralock® International Inc. for their support and manufacturing of all implants, Ramirez Dental Center for performing statistical analysis, postgraduate program of oral rehabilitation and implantology at the University of Los Andes, Santiago of Chile and Education Division through School of Logistics Services, Chilean Army.

References

2. Visscher C, van den Berg J, van den Rijn J. Mini implants: VMBL, significant difference in bone loss with an average of 0.49 mm, the CAL, with an average decrease of 0.35 mm and PD with an average increase of 0.48 mm were observed. However, IPm and BOP showed no statistically significant differences. Only a prosthodontic had a laceration complication at 3 months was observed and an improvement in the quality of life of patients.
3. The present study is to evaluate the definitive treatment of the edentulous jaw with overdentures, when MDI is used and / or support the total prosthetic device in patients in the CESA of San Bernardo, University of Los Andes, Chile.

A. Surgical planning stage: Orthopantomography and CBCT with the lower denture doubled in clear acrylic and at 4, 12 and 24 weeks were performed considering the assessment of survival, success, vertical marginal bone level (VMBL), clinical attachment level (CAL), probing depth (PD), modified index plate (IPm), the bleeding on probing (BOP), the prosthetic condition and impact on quality of life of patients.

B. Surgical and prosthetic stage: Four MDI were inserted into the mandibular bony residual between mental foramen. The implants used were the Mini Drive Lock (MDI®) of the company Intralock® Dental Implants (Intralock® International Inc., Boca Raton FL., USA.). (Fig. 2-5)

C. Clinical and radiographic controls: weekly during the first postoperative month and prosthetic fitting and at 4, 12 and 24 weeks were performed, considering the assessment of survival, success, vertical marginal bone level (VMBL), clinical attachment level (CAL), probing depth (PD), modified index plate (IPm), the bleeding on probing (BOP), the prosthetic condition and impact on quality of life of patients.

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