

IMMEDIATE LOADING WITH TILTED IMPLANTS AND COMPUTER GUIDED SURGERY: ONE YEAR FOLLOW-UP CASE REPORT

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INTRODUCTION

Often in clinical practice the anatomical conditions do not allow the ideal implants insertion concerning the number, position and diameter in order to achieve a good final prosthetic result.

These critical situations can be solved by means of preprosthetic surgery, in example the sinus lift in vertical bone defects in the posterior upper jaw.

However, the analysis of the recent Literature leads us to consider, as alternative highly predictable, the use of short and tilted implants, always through a careful preliminary evaluation of the individual case.

MATERIALS AND METHODS

During June 2009, a 56 years-old female patient came to our observation in healthy physical conditions.

During anamnesis the patient reported some functional and psychological problems related to the frequent fixed prosthesis decementation in region 2.2, 2.3,2.4; furthermore the patient didn't accept the removable provisional prosthesis as therapeutic solution.

The clinical evaluation and CT DentaScan (Dicom format) examination showed the unrecoverable residual roots (2.2 and 2.3) furthermore a reduced bone quantity in vertical dimension for the sinus presence was evident.

Through the Facilitate software (Materialise, Belgium) we planned the insertion of tilted and short implants in order to use the maximum bone availability and to obtain the adequate primary stability for two mesial implants for an immediate not functional loading.

Through a computerized planning and a plaster model we realized a resin surgical guide with dental support in order to insert 4 fixtures (4x13, 4x11, 4x6, 4x9 mm - Astra tech, Sweden) respectively in positions 2.2, 2.4, 2.5 e 2.7.

The surgery was performed by flapless technique for the 3 mesial implants insertion and by a full-thickness flap elevation for a correct implant placement in region 2.2 preserving the marginal bone in the post-extractive socket.

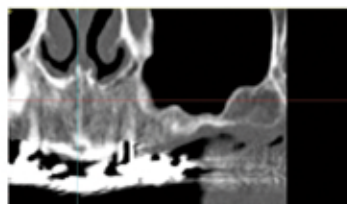
After the implants insertion in 2.2 and 2.4 regions Cresco abutments (Astra Tech, Sweden) were immediately inserted and the impression was taken. After 24 hours the provisional prosthesis was delivered in this region featured by a not functional loading on the implants.

After 90 days from the first surgery a final screwed and passivated prosthesis was delivered using the Cresco system.

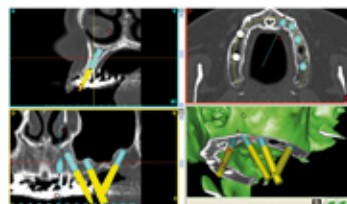
CONCLUSIONS

The tilted and short implants, a computer guided surgery and the final prosthesis passivation using Cresco system allowed to solve a difficult case reducing to minimum the patient discomfort.

The radiologic and clinical follow-up after one year demonstrated the excellent marginal bone level around the implants, the absence of prosthetic complications and the soft tissues good conditions.



Initial situation: panorex and axial aspects



Planning with facilitate software



Initial situation: clinical aspects



Placement of surgiguide



Image of drilling in region 2.7



Fixture in region 2.7



Fixture placement in region 2.5



After the fixtures insertion in 2.4, 2.5, 2.6 region, the residual roots were extracted



The Surgiguide is again placed in order to obtain the planned direction during the drilling in 2.2 region



A full-thickness was elevated in region 2.2 in order to perform the conventional surgery



Impression with Cresco System pick-up



After 24 hours a provisional restoration not functional was delivered in region 2.2 2.3 2.4



After 3 months final impression was taken and realized the definitive model



Definitive passivated structure realized with Cresco System



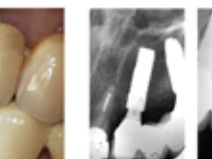
Final screwed prosthesis and cemented crown in region 2.2



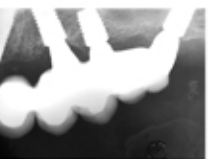
Final screwed prosthesis with and without cemented crown in region 2.2 in the occlusal aspect



Crown in region 2.2 at the buccal aspect



Radiographic follow-up after 1 year showing excellent maintenance of marginal bone



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