

Multidisciplinary treatment of severely resorbed maxillary anterior region

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AIM: Treatment of severe periodontal breakdown in the maxillary anterior region by means of multibanded orthodontic treatment, miniscrews and implant rehabilitation: a case report.

MATERIALS AND METHODS: A 45 years-old woman presented with attachment loss, missing gingival architecture and recession, lack of papillae, and 5 to 6 mm probing depth around tooth 1.1, 1.2, 2.1, 2.2 with only 2 to 5mm of bone left around the roots. Study models and occlusion analysis revealed Angle Class III tendency, decreased overbite and overjet, severe vertical step between the lower right posterior segment and the anterior region (Fig.1-8).



Fig.1

Fig.2

Fig.3



Fig.4



Fig.5



Fig.6



Fig.7

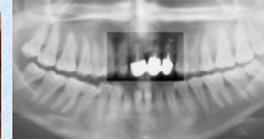


Fig.8



Fig.9



Fig.10

It was planned to establish proper occlusion and function, obtain anterior guidance and cuspid rise, replace hopeless teeth 1.1, 1.2, 2.1, 2.2 with implant supported fixed prosthesis. Prior to orthodontic treatment periodontal pocket elimination was performed, and tooth 3.1 was extracted (Fig.9-10), then multibanded orthodontic appliance was placed to treat the Angle Class III tendency, obtain a good overjet and overbite.

Two miniscrews were placed in the upper right maxillary vestibular area to intrude teeth 1.4, 1.5, 1.6 (Fig.11). In order to replace teeth 1.1, 1.2, 2.1, 2.2, achieve good aesthetic and natural appearance, patient needed hard and soft tissue augmentation of about 10mm height. Orthodontic forced eruption of teeth 1.1, 1.2, 2.2 to regenerate hard and soft tissue prior to implant placement was performed (Fig.12-13).

In addition, tooth 2.2 was then moved in 2.1 position to move alveolar bone and attached gingiva in the area where orthodontic forced eruption could not been performed (Fig.14-17).



Fig.14



Fig.15



Fig.16



Fig.14



Fig.15



Fig.16



Fig.11



Fig.12



Fig.13

Then, 3 implants were placed on area 1.1, 1.2, 2.2 and immediately loaded with a 4 units fixed provisional bridge and simultaneously a sub-epithelial connective tissue graft in the crestal area for further soft tissue augmentation was performed. After a period of 3 months of tissue conditioning with the fixed provisional, final prosthesis was delivered (Fig.18).



Fig.17

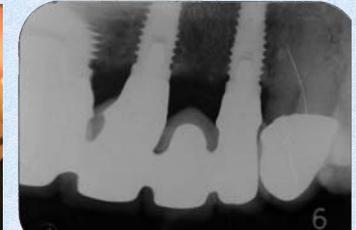


Fig.18

RESULTS: Treatment lasted 36 months: a good occlusion and function were obtained, dental, soft and hard tissue aesthetics was good, and patient expectations were satisfied with only one surgical procedure (Fig.19-24).



Fig.19



Fig.20



Fig.21



Fig.22



Fig.23



Fig.24

CONCLUSIONS: Combined orthodontic-periodontic-implant treatment was preferred to the surgical option. In fact, vertical hard and soft tissue surgical augmentation was not predictable and involved risks of failure due to the extensive vertical tissue loss and general periodontal conditions.

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