Case Report

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A Multidisciplinary Approach to a Complicated Dentoalveolar Trauma

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Abstract

This case describes the treatment of a 24 yrs old male patient who lost multiple teeth and had a fracture of maxillary and mandibular jaw due to trauma. As the patient was having deepbite and serious occlusal instability the teeth could not be replaced by a conventional fixed prosthesis nor implants could be placed because of insufficient bone width. The vertical dimension was increased using bite plane over a period of 6 months and then anterior teeth were extracted followed by alveolectomy and alveloplasty for gaining space. Once the healing was completed the mandibular over denture and maxillary fixed prosthesis was inserted in patient mouth.

Keywords: Dentoalveolar Trauma; Fracture; Facial Malalignment; Alveolectomy; Alveoloplasty; Fixed Prosthesis.

Introduction

Most cases of dentoalveolar trauma occours in the maxillary anterior region. Most are complicated crown fractures and root fracture. The majority of cases seems to occur in the 16 to 20 yrs of age group followed by the 11 to 15 yrs age group. Restoration of such type of anterior fracture in young adult can be difficult especially when clinical factors as a deepbite, unstable occlusion, extensive bone loss and questionable prognosis of the adjacent teeth which complicate the case. Only a multidisciplinary approach may solve the patient aesthetic and functional problems .The purpose of this report was to present a multidisciplinary treatment approach to a complicated maxillary and mandible dental trauma in which teeth were replaced by porcelain fused metal crowns in maxilla and overdenture in mandible.

Case Report

A 24yrs old male adolescent had come to the department of oral surgery with occlusal discrepancy with facial malalignment. Patient had a cross bite and progranthic profile as shown in (Figure 1). Orthognathic surgery was performed in the Dept of Oral Surgery to correct the facial profile and occlusal discerpancey, after orthognathic surgery in intra oral examination it was found that there was sever anterior overbite as (Figure 3). Hence it was decided to extract 31, 32, 41, 42; with alveloectomy and alveloplasty to correct the overbite (Figure 4,). Maxillary anterior teeth length was shorten for PFM crowns. Hence soft tissue laser crown lenghthning was done irt to 21,22,11,12 (Figure 5) after crown lengthning the tooth preparation was done for all maxillary teeth (Figure 6) and temporization was done. As manbilbular only the tooth left was 36 & 46. it was decided to give overdenture as bone width and length was insuffcient for placement of implant, 36 & 46 tooth preparation was done and metal coping was cemented (Figure 8). After cementation of coping and fpd jaw relation was recorded,and try in procedure was done (Figure 9 ,10) ,once after all procedures has been completed fabrication of ovrdenture for mandibular arch (Figure 12).

Preoperative Picture (Before Orthognathic Surgery)

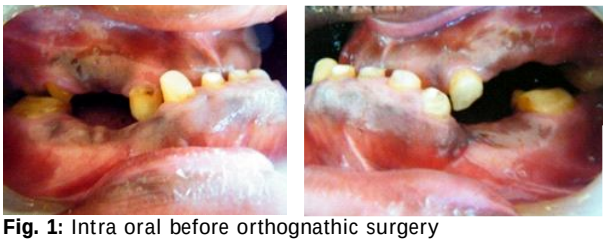

Fig. 1: Intra oral before orthognathic surgery

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Fig. 2: Pre-operative (profile view) before orthognathic surgery

Fig. 3: After orthognathic surgery

Fig. 4a: OPG – After surgery picture

Fig. 4b: After extraction of impacted teeth

Fig. 4c: After extraction of lower incisor alveolectomy and alveoloplasty

Fig. 5: Laser crown lengthening done for maxillary anteriors

Fig. 6: Tooth preparation

Fig. 7: metal try in done

Fig. 8: FPD cementation

Fig. 9: Coping cemented

Fig. 10: Jaw relation

Fig. 11: Overdenture

Fig. 12: Insertion of over denture

Fig. 13: Final insertion

Fig. 14: Pre operative

Fig. 15: Post operative

Discussion

A male young adult aged 24 yrs came to the Department of oral and maxillofacial surgery with a dentoalveolar trauma. He came with a complaint of multiple teeth loss with prognathic facial profile. After examination the paient had severe anterior crossbite with multiple teeth loss then orthognathic surgery performed to correct his crossbite. After the surgery ptatient was reffered to department of prosthodontics to rehabilitate the missing teeth. After complete clinical and radiographical examination the pt had a deepbite with multiple teeth loss. so it was planned the treatment aspecpts as maxillary fixed prosthesis and mandibular arch overdenture. As the pt had a severe deep bite and insufficient interocclusal space it was decided extraction for mandibular anteriors with alvectomy and alveoloplasty. Once alvectomy and alveloplsaty done then laser crown lengthening done to get apporitate crown length ratio then maxillary tooth preparation done 11,12,15,16, 17. 21 22 25 26 27 and metal try in and cementation was done with maxillary teeth. As in mandible the teeth left were 36 & 46 and bone quality and width was

not favorable for implants and hence overdenture was planned for mandible, and then tooth preparation was done irt 36& 46 for overdenture and coping were cemented on 36 &46 then jaw relation, teeth arrangement and try in done.

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