ADJUNCTIVE ORTHODONTIC TREATMENT OF PATIENT WITH PERIODONTAL DISEASE 236
Endah Mardiati 236

ORTHODONTIC PATIENT EXAMINATION AND ANALYSIS IN ORDER TO ESTABLISH THE CORRECT DIAGNOSIS 243
Gita Gayatri1, Mediany Kriseka Putri2 243

Management of Class III Skeletal Deformity with Le fort I Osteotomy and Bisagittal Split Ramus Osteotomy 253
Indra Hadikrishna*Abel Tasman**, Seto Adiantoro *** 253

MANAGEMENT OF IMPACTED MAXILLARY CENTRAL INCISOR WITH SURGICAL TRANSPLANTATION 264
Nyoman Ayu Anggayanti1, Melita Sulyana2, Endang Syamsudin**

A RARE CASE OF AUTOTRANSPLANTATION OF IMPACTED TEETH IN POST ODONTOMA SITES 270
Endang Syamsudin1 Dian Maifara2 270

OROANTRAL FISTULA CLOSURE USING BUCCAL FLAP : A CASE REPORT 277
Teuku Ahmad Arbi, DDS, OMFS 277

TRANSMUCOSAL ATTACHMENT IN DENTAL IMPLANT 283
*Chandra Andi B **Ina Hendiani 283

SEMILUNAR FLAP FOR TREATMENT MILLER’S CLASS I GINGIVAL RECESSION (A CASE REPORT) 292
Caecilia S.W.N1, Ina Hendiani2 292

THE ROLE OF INFLAMMATORY MEDIATORS IN PERIODONTAL DISEASE 300
Nicky Arviana*, Agus Susanto** 300

ALVEOLAR RIDGE AUGMENTATION 311
T.C Rini, I Hendiani 311

ONE VISIT FRENECTOMY AND GINGIVECTOMY 321
Y.Sidarta1, E.L.C. Kumala2 321
Management Of Impacted Maxillary Central Incisor With Surgical Transplantation (Case Report)

Nyoman Ayu Anggayanti¹, Melita Sulyana², Endang Syamsudin**

¹Resident, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Universitas Padjadjaran, Bandung  
²Staff, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Universitas Padjadjaran, Dr. Hasan Sadikin Hospital, Bandung, Indonesia  
Email : anggayanti@gmail.com

ABSTRACT

Patients with impacted maxillary central incisor is a rare case presented in Oral and Maxillofacial Surgery Departement Dr. Hasan Sadikin General Hospital. This case can have a major impact on dental and facial aesthetics. The purpose of this paper was to present successfully the surgical exposure treatment of impacted permanent maxillary on left central incisor with retained of left central and lateral of deciduous incisors. A case of 23 years old female patient with chief complaint unerupted upper left front tooth. Panoramic and upper occlusal radiographs showed horizontally impacted of left central incisor tooth. The treatment plan includes the extraction of retained deciduous teeth, surgical extraction of the impacted tooth and transplantation of left central incisor into former socket revocation, continue with interdental wiring with arch bar from left first premolar to right first premolar, and alignment to achieve normal occlusion. Final outcome showed complete healing of bone socket. After seven days of operation, the intra oral suture removal was performed, there was no wound dehiscence, and interdental wiring was well fixed with arch bar. After four weeks, there was no sensitivity found on the left maxillary central incisor, there was no mobility of tooth and occlusion was intact. The tooth was stable and the alignment was proper. Successful prognosis of surgical transplantation of impacted maxillary central incisor in this case depends on the following factors: the condition of the remaining periodontal ligament attached to the extracted donor tooth, the adaptation of the donor tooth to the socket, the duration and the method of splinting after transplantation, and the timing of endodontic treatment.

Keywords : Impacted maxillary central incisor, Transplantation, Interdental wiring
INTRODUCTION

Impaction of maxillary permanent incisor is not a frequent case in dental practice, but its treatment is challenging because of its importance to major impact on dental and facial aesthetics. Various treatment modalities are available for the management of impacted maxillary central incisors, surgical transplantation are one of treatment options. Several studies have shown that impacted teeth can be properly positioned with using surgical repositioning. This case report demonstrates a successful treatment outcome with surgical transplantation.

CASE REPORT

A 23 years old female came to Oral and Maxillofacial Surgery Department Dr. Hasan Sadikin Hospital reported with chief complaint unaerupted upper left front tooth. Patient had no significant medical history and dental history. Clinical examination showed that the patient was retained of left central and lateral of deciduous incisors. Upper occlusal and panoramic radiographs showed horizontally impacted of left central incisor tooth.

![Fig. 1. A. Frontal view, B. Occlusal view, showed unaerupted of left permanent central incisor, with retained of left central and lateral of deciduous incisors.](image1.jpg)

![Fig. 2. Intra oral occlusal radiograph showed horizontally impacted of left central incisor tooth.](image2.jpg)
Fig. 3. Intra oral panoramic radiograph showed horizontally impacted of left central incisor tooth.

Fig. 4. A. Clinical picture intra operation showed after transplantation of tooth left maxillary central incisor and interdental wiring with arch bar from left first premolar to right first premolar. B. Post operation after 4 weeks removed arch bar interdental wiring.

The patient was performed extraction of left maxillary deciduous central and lateral incisors and odontectomy of left maxillary central incisor under general anesthesia. Left maxillary central incisor was then transplanted. Transplantation was chosen due to wide of post extraction socket of left maxillary deciduous central and lateral incisors that was available for mesiodistal of left maxillary central incisor. After transplantation of left maxillary central incisor, the treatment was continued with interdental wiring application from left first premolar to right first premolar and maintained for four weeks. On the first control after seven days of operation, the intra oral suture removal was performed, there was no wound dehiscence, and interdental wiring was well fixed with arch bar. On the second control after four weeks, there was no sensitivity found on the left maxillary central incisor, there was no mobility of tooth and occlusion was intact. Furthermore, the patient was contented.

DISCUSSION

Impaction of maxillary incisors requires monitoring or intervention when there is eruption of central lateral teeth that occurred greater than six months previously, both central incisors remain unerupted and the lower incisors have erupted greater than one year previously and there is deviation from the normal sequence of eruption.¹
The incidence of unerupted maxillary central incisor in the 5-12 year old age group has been reported as 0.13%. In a referred population to regional hospitals the prevalence has been estimated as 2.6%. Literature reveals several causes of failure or delayed eruption of maxillary incisors. Eruption failure may occur if pathological obstructions, such as supernumerary teeth, odontomas, cysts, develop in the eruptive path of the incisor. Supernumerary teeth and odontomas are the most common cause: 56-60% of supernumerary teeth cause impaction of permanent incisors due to a direct obstruction for the eruption.¹

Eruption failure can also be caused by tooth malformation or dilacerations. Dilacerations occur after trauma to a primary tooth, where the developing permanent tooth bud is damaged due to close proximity to the primary tooth. The degree of damage to the permanent tooth depends on the developmental stage of the tooth in question, as well as the type and direction of the trauma inflicted. Other possible causes of lack of eruption of maxillary incisors are: ectopic position of the tooth bud, non-vital or ankylosed primary teeth, early extraction or loss of deciduous teeth, mucosal barriers in the path of eruption that acts as a physical barrier to eruption, endocrine abnormalities, and bone disease.¹

An intra oral examination should be undertaken to identify the presence of deciduous teeth retained beyond their normal exfoliation dates. Buccal or palatal swellings should be noted as well as the availability of suitable space for the eruption of the incisors 9 mm for a central and 7 mm for a lateral incisor. Radiographs should be taken. A dental panoramic tomography and anterior occlusal radiograph can be taken for general assessment purposes. For detailed assessment of position it has been shown that the use of a horizontal parallax technique is better than vertical. For more accurate assessment of root and crown morphology, periapical radiographs should be taken using the long cone technique. More recently, cone beam computed tomography technology has become available for imaging the maxillofacial region and this can be used for the localisation of impacted teeth, including incisors. This technique allows accurate localisation of the impacted tooth and visualisation of associated structures.²

Although several different approaches to treatment of unerupted maxillary incisors have been proposed in the literature, a common feature among them is that early diagnosis is critical to the success of the treatment. It is thought that the less time the normal eruption is delayed, the better the outcome. If there has been a loss of space, it is necessary to create space prior to treatment and maintain that space throughout the treatment phase. The treatment possibilities vary from conservative to more aggressive approaches. The most conservative management would be the extraction of any obstruction, the creation of space, and the observation for spontaneous eruption. 70% of teeth have been reported to erupt spontaneously after removal of obstruction, without any further treatment. Surgical transplantation are one of treatment options.¹

Indication of surgical transplantation on this case is adequate space is available for the impacted maxillary central incisor. The tooth is carefully extracted and placed in a surgically prepared socket. It is immobilised with a splint for about 4 weeks, when it is usually
firm. Good results are obtained with young patients, but resorption of roots is a complication after 2-5 years and occasionally leads to loss of the tooth. Early endodontic treatment may help to prevent this.³

CONCLUSION

Management impacted of maxillary incisor treatment may have a good result if early diagnosis of the presence and removal of impacted teeth is essential. Maxillary permanent incisor was successfully positioned in the maxillary arch by surgical exposure with transplantation and fixation with interdental wiring which showed good stability. Successful prognosis of surgical transplantation depends on the following factors, the condition of the remaining periodontal ligament attached to the extracted donor tooth, the adaptation of the donor tooth to the socket, the duration and the method of splinting after transplantation, and the timing of endodontic treatment.

ACKNOWLEDGMENT

The authors would like to acknowledge Melita Sylvana and Endang Syamsudin for their participation in taking of the case.

REFERENCES

2. Omar Yaqoob, Julian O’Neill, Terry Gregg, Joe Noar, Martyn Cobourne, David Morris. Management of unerupted maxillary incisors. 2010