Multidisciplinary approach of orthodontics, implantology and aesthetic dentistry in congenital lateral deficency: Case report

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Abstract

Maxillary lateral hypodontia is the most common tooth missing after the third molar. There is a frequency of between 1% and 4% in the society. Diastema and asymmetrical appearance resulting in hypodontia result in aesthetic problems. Today's prosthetic approach includes innovative prosthetic materials in addition to minimum tooth preparation. For minimum preparations, laminated veneers are a very popular solution, and lithium disilicate material as a prosthetic material is aesthetically satisfying.

Introduction

Hypodontia is the inability of the dental germ to be congenital and consequently lack of teeth. Multiple factors such as inheritance, mutation, a disease or bleeding during pregnancy, received x-rays, hypothyroidism, congenital hydrangea, or mongolism play a role in congenital dentition. In hypodontic cases; segment deficiencies are usually missing the most distal segment of the segment. When all teeth are considered, there is a second missing defect is lateral tooth defect after the third molar tooth defect. The frequency in the society varies between 1% and 4%.

The minimally invasive approach is one of the most popular approaches today. This approach envisages a minimum of healthy tissue loss and maximum successful outcome. Depending on this concept, only the vestibular surfaces are prepared rather than the preparation of the entire tooth for full crown. This concept is in progress in correlation with developments in adhesive systems and laminate veneer systems.

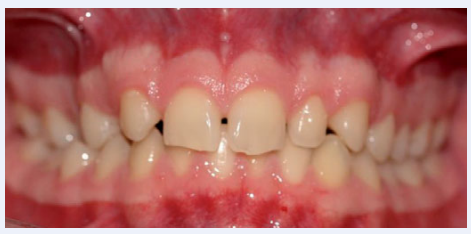
Lithium disilicate material, the natural adhesion of the teeth, comes out with very similar optical properties. A satisfactory result is obtained with the adhesive system used, proper tooth preparation and appropriate measurement technique.

Case

A 17-year-old male patient applied to the Department of Orthodontics of the Istanbul University Dentistry Faculty because of the aesthetic problems caused by tooth loss, irregularity and diastemas. The appropriate radiologic and clinical examination result is the appropriate void margin for the prosthetic restoration of the missing lateral tooth and the appropriate void margin for lateral distribution of the available space between the upper intercuspal teeth with small mesio-distal dimensions, it is planned to be directed to Oral Implantology Department for prosthetic treatment of tooth implants and upper cutting teeth No. 12. The patient was directed to the Department of Implantology for preliminary evaluation after the fixed treatment was started with the application of upper and lower band-brackets and after the leveling was started with angular SS wires, the right upper region was started at the distal region of the blood and the class I blood and molar relation was provided and the cavities were appropriately distributed. 3.3 mm diameter Camlog® implant was placed at the end of the planned orthodontic treatment in the Department of Implantology. Following osseointegration, the connective tissue graft was applied to preserve the labio-palatal volume of the implant site, 13 11 21 22 23 of the implant was rehabilitated with a laminate veneer and the implant with e-max veneer.

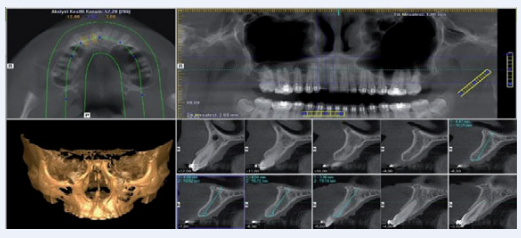
Picture 1: Panoramic radiography of the patient's first examination

Picture 2: The patient's first examination was an occlusal intraoral view



Picture 3: The patient's first examination was an frontal intraoral view

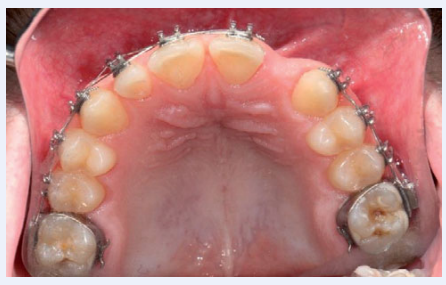
Picture 4: The patient's first examination inter-occlusal view



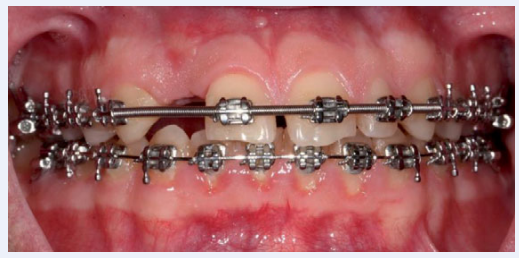
Picture 5: Evaluation of dental volumetric tomography

Picture 6: Implant surgery

Picture 7: Intraoral view after implant surgery

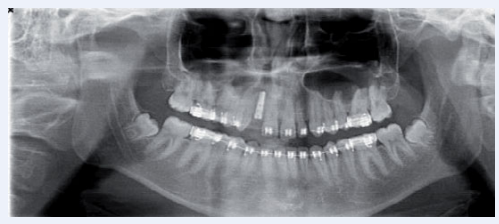


Picture 8: Occlusal view after implant surgery



Picture 9: Intra-Oral view after connective tissue graft application

Picture 10: Occlusal view after connective tissue graft application



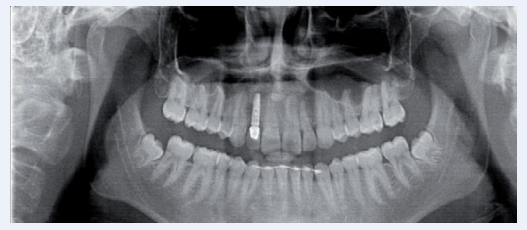
Picture 11: Panoramic radiography before pre-prosthetic stage

Picture 12: Preparation of natural teeth and taking impression with coping-cap

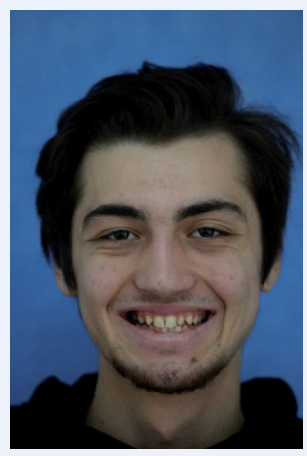
Picture 13: Final restoration

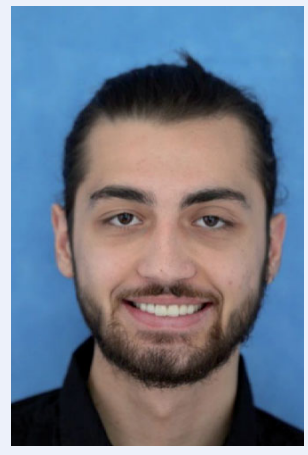
Picture 14: Frontal view of final restoration

Picture 15: Occlusal view of final restoration



Picture 16: Following the final restoration, panoramic radiography





Picture 17: End of treatment of the patient

Result

Various treatment concepts are popularly used in the absence of upper lateral teeth. Closure of the existing void to orthodontic movements, traditional bridge treatment methods have various disadvantages. However, after obtaining adequate space with orthodontic movements, implant rehabilitation is the most healthy method in terms of prevention of resorption in bone and preservation of the integrity of adjacent teeth. The irregularities present in the natural teeth are restored with laminate veneers with minimal prepration. Thus, minimal healthy tissue loss is experienced.

References

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Qamheya, A. H. A., M. Qamheya, and V. Arisan. "Lithium Disilicate Restorations: Overview and A Case Report." *J Dent & Oral Disord* 2.9 (2016): 1047.