

ESTHETIC REHABILITATION OF CONGENITALLY MISSING MAXILLARY LATERAL INCISORS—A CASE REPORT

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Article Received on
21 Dec 2014,

Revised on 15 Jan 2015,
Accepted on 09 Feb 2015

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ABSTRACT

Maxillary anterior teeth spacing is a major reason why adults are motivated to seek orthodontic or restorative treatment. Frequently, they hope a simple removable appliance or composite bonding will provide immediate and uncomplicated correction of their problem. In reality, the complexity of the treatment will depend upon the etiological factors that have resulted in this condition. Thorough diagnosis of these contributing factors is essential to the success of the treatment .This case report describes the esthetic rehabilitation and smile designing of a patient with congenitally missing maxillary lateral incisor and spacing in between the teeth using all ceramic.

KEYWORDS: Esthetic rehabilitation, all ceramic crowns, missing lateral incisor.

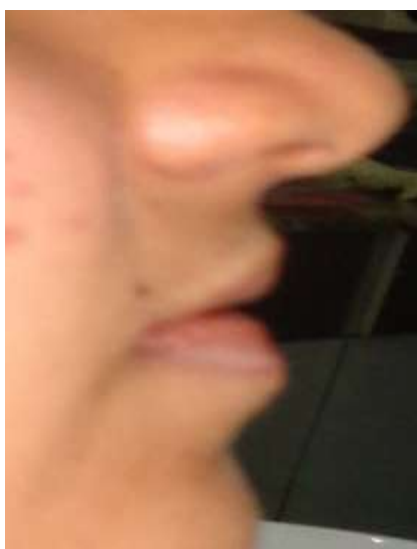
INTRODUCTION

In the 21st century of esthetic dentistry re-establishment of proper esthetics and function in the anterior region is utmost important for the patient.^[1] Discolored, unsightly, malposed, malformed anterior teeth and midline diastemas can make the individual psychologically depressed and socially less active.^[2] Success in esthetics requires a standard of treatment with skills to achieve a natural looking smile and not merely to correct pathologic irregularities.^[3] Congenitally missing lateral incisor pose a difficult esthetic and treatment planning to the

clinician with the incidence ranging from 1-2 %,maxillary lateral incisors are most commonly affected teeth after upper and lower premolar.^[4] All ceramic restorations have gained a wide acceptance in esthetic dentistry. The advances in ceramic allows the clinician allows to restore the function and esthetics using conservative and biologically sound method as well as promote the oral health. Esthetics and treatment planning should be in accordance with the teeth, lips, gingival tissue and face, because all ceramic restorations is primarily indicated for restoring the smile.^[5] The purpose of this article is to show the considerable improvement in esthetic dentistry that can be achieved today with all ceramic crowns for space closure in maxillary anterior teeth with congenitally missing lateral incisor.

Case report

A young patient aged 15yrs visited the dental speciality clinic wanting correction of her anterior teeth. on her first visit she refused to smile as she was conscious about the dark gaps present in between her teeth (fig 1). On persistence she smiles such that the upper lip covers the labial aspect of the anterior teeth. On extraoral examination it was found that she had a straight profile and competent lips(fig 3). On intraoral examination showed large diastema space in between central and canine with 12 and 22 missing fig(5). Tooth 11,13,21,23 had straight profile and hence not required to be moved palatally . The patient had angles class I molar relationship. Orthopantomogram was taken to check for missing lateral incisor and was found to be totally missing from the maxillary jaw fig(4). The treatment planning could have been orthodontic treatment to move the centrals and canine to their position followed by replacement of lateral incisor 12 and 22 using implants or bridge .The treatment option was explained to the patient and they preferred a treatment of minimum cost and in minimum period of time. So the alternative treatment plan was all ceramic crowns for 11,13 ,21and 23 where the canines were converted into a lateral incisor .Crown preparation was done using flat end tapered fissure bur ,with shoulder finish line and equigingival margins on labial surface and supragingival margin at the lingual surface .shade selection was done followed by Impression using putty wash double impression technique with aquasil rubber base impression technique. Temporary crowns were placed, model was poured using die stone. All ceramic crowns were fabricated using pressable ceramic crowns (IPS emax, ivaclor) and the crowns were cemented and occlusion and contacts were checked(fig 2 and 5).

**Fig 1: preoperative smile****fig 2: postoperative smile****Fig 3: straight profile of the patient****fig 4: OPG showing missing lateral incisors****Fig 5 preoperative picture showing spacing
Between central and canine and missing
lateral Incisor****Fig 6 –postoperative picture of all
ceramic crowns showing space closure**

DISCUSSION

Esthetic dentistry is a combination of measurable dimensions and artistic sensitivity.^[3] The interactions between new restorative materials and techniques allow the reproduction of dental structures, restoring form and function in such a way that restorative procedures become imperceptible. The arrangement and proportion of maxillary anterior teeth are the major determinants for a pleasing appearance.^[6] Missing lateral incisors leads to obvious asymmetry in patients smile and shift in midline and the canines frequently erupt mesial to

their normal position.^[4] Treatment plans for patients with missing maxillary lateral incisors have traditionally included either space closure or space reopening.^[7] The most common objections to orthodontic space closure are that the treatment outcome may not look “natural”, that retention is difficult, and that the functional occlusion may be compromised.^[8] In the present case orthodontic treatment was not planned because the patient had a straight profile and on doing orthodontic treatment the profile would become concave. Many clinicians have therefore preferred to create space for missing lateral incisors with single-tooth implants or resin-bonded bridges, however, neither approach produced results that were entirely satisfactory from an esthetic and functional standpoint.^[8] Esthetic recontouring of a mesially relocated cuspid to a more ideal lateral incisor shape and size by using all ceramic crowns can be a treatment of choice.^[9] In the present case porcelain laminates were not used because the occlusal loading into the canine is maximum and considering the age of the patient and the canine relation with the opposing teeth all ceramic crowns were the material of choice. The properties of dental ceramics like colour stability, mechanical strength, clinical longevity, esthetic appearance and compatibility with periodontal tissue makes it a restoration of choice.

CONCLUSION

Congenitally missing lateral incisor presents a challenging treatment dilemma for the clinician as they are usually associated with malocclusion and other abnormalities. The esthetic and restorative application of dental ceramics have increased and will continue to evolve with time. The success of all ceramic crowns depends on understanding the principles involved in their fabrication and application.

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