

Case study:

Composite facing of peg shaped lateral incisor- a case report.

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Abstract

In appearance related society that we live in, the younger adolescent patient can easily become self-conscious if their teeth are different to others. A common form of microdontia which affects the maxillary lateral incisor is known as "peg lateral". Treatment approach has to be case specific and depends on the condition of primary predecessor, number of missing teeth, status of occlusion and patient preference. This clinical report describes the treatment of both-sided peg-shaped lateral incisors that were restored with resin composite laminate veneers. The aim of the treatment is to close the diastema and restore the contours of the tooth. These simple procedures may be a cost-effective treatment alternative to restore the esthetics of these teeth and may prove particularly growing patients before more definitive restorations can be considered.

Key word : Hypodontia, Microdontia, composite facing.

Introduction

Aberrations in tooth morphology resulting from late disturbances during the differentiation process most commonly result in size variations.¹⁻⁵ Peg shaped or mesiodistally deficient maxillary lateral incisors demonstrate variation in the expression of the trait although the gene(s) causing hypodontia are not known.¹⁻⁵

A peg lateral is defined as "an undersized, tapered, maxillary lateral incisor"⁶ that may be associated with other dental anomalies, such as canine transposition and over-retained deciduous teeth. Individuals with malformed lateral incisors often display a diastema in the midline region caused by the distal movement of the central incisor.⁷ In more than half cases the condition is bilateral.

The tooth or teeth are usually healthy and functional- the microdontia relating predominantly to a malformation of the crown, while the root structure usually remains sound and slightly reduced in size. If there is a problem, it is a perceived aesthetic one.

In a study by Backman and Wahlin,⁸ the incidence of peg-shaped incisors was found to be 0.8% in 739 children. In another study, it was found to be 0.4%.⁹ Several previous reports have described the association between the presence of peg shaped maxillary lateral incisors and other developmental anomalies.^{3,4,10,11} In the restoration of peg

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lateral incisors, there are many factors to be considered that depend on the patient expectations and the expertise of the clinician.¹²⁻¹³. The type of treatment should be selected based on functional and esthetic requirements, need for extractions, the position

Case:

The patient was 19 years old girl concerned about both sided peg shaped lateral incisor. The patient was not interested in moving the lateral incisors or canine into position either orthodontically or surgically .After proper assessment it was decided buildup the lateral incisors with composite facings to the dimensions of more normal teeth with some lengthening at the incisal edges .The first step in any reconstruction is to determine shape and opacity. Then upper lateral incisors of both side was cleaned with a rubber cup and pumice and a blunt fluted bur around the cervical. Enamel was etched with 37% phosphoric acid (Meta Etchant, BioMed) and washed and adhesive (BeautiBond, Shofu)applied and cured.



1st fig: Right and left peg shaped lateral incisors. 2nd fig: Shade matching with application of composite on labial surface of lateral incisors. 3rd fig: Enamel of both lateral incisors was etched.4th fig: Resin adhesive applied and cured.

A small, thin amount of A2 (Beautifil, Shafu) was placed and cured on the labial in the cervical third. A1(Beautifil,Shofu) was applied to the mid portion and, before curing, tiny indentations created with the tip of a probe . Small flecks of opaque white tint were then added onto the incisal enamel. To aid the flow of next layer and prevent voids, this initial

of the canines and the potential for coordinating restorative and orthodontic treatment.¹⁴ the aim of treatment should be to give the lateral incisor a normal looking crown structure that appears unremarkable.

build up was smeared with a small amount of resin adhesive ,blown with air and left uncured. Using plastic matrices angled into the cervical margins, B1(Beautifill, Shofu). was then placed mesially and distally and manipulated onto the labial and to the incisal. Invariably some irregularities are found on the palatal margins.

These were corrected with flowable composite (Beautiful Flow, Shofu).The build up was then shaped with disks, FG diamond burs and abrasive strips. Long straight multifluted burs and rubber cons were then used to polish the surface



1st fig: Build of left lateral incisor with composite. 2nd fig: Built up of right lateral incisor with composite 3rd fig: The final view of composite facing incisors. 4th fig: After polishing of surface with long straight multifluted bur and rubber cone.

Discussion:

The esthetic defect in patients with peg lateral incisors consists of both the malformed teeth and the presense of diastema between teeth. The treatment includes two primary objectives; to restore or replace the hypoplastic dental crowns and to close the diastema.It is essential to choose a treatment plan that is best for patient and dentist .In case of peg shaped incisors treatment options vary but include direct or indirect restoration to develop normal tooth morphology such as Porcelain laminate veneers, metal-ceramic

restoration, all ceramic crown as well as minimally invasive procedures such as direct resin composite bonding or composite veneering.¹²

A conservative veneer technique is the application of resin composite without tooth reduction.¹⁵ Resin composite veneers can be altered and repolished in situ, and this feature is very useful when subtle changes to the emergence angles are desirable. Esthetic bonding with resin composite may be the most conservative approach for several reasons: sound tooth structure will not be removed, the procedure may not require administration of local anesthetic, the procedure may be accomplished in 1 appointment, and treatment is relatively inexpensive than porcelain laminate veneers.¹⁵ On the other hand, resin composite restoration exhibit excellent physical properties, marginal integrity and esthetics.^{16,17} Moreover in comparison to all ceramic restorations, resin composite does not have the potential for catastrophic brittle fracture, nor does it cause abrasive wear of the opposing dentition.¹⁶⁻¹⁸ The reversible nature of this procedure, which allows for other treatment approaches in the future. A significant advantage of this restoration over other restorative materials is that repair may be possible intra orally without the risk of modifying esthetics or mechanical performance.¹⁶

Conclusion:

A direct composite facing can be a successful alternative to more invasive, expensive procedures when restoring an unusually shaped incisor. This type of aesthetic dentistry represents one of the few occasions when pt can reasonably assess the quality of the work done. It is a source of job satisfaction when the operator alone is responsible for a restoration that improves a person's smile.

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