

New Face To A Crooked Tooth

Dr. Anika Mittal

Professor & HOD
Department of Conservative Dentistry

Dr. Shilpa Khullar

Professor
Department of Prosthodontics

Dr. Pankaj Dutta

Principal & HOD
Department of Prosthodontic

Dr. Kalyani Bhargava

Professor & HOD
Department of Oral Pathology

Inderprastha Dental College & Hospital, Sahibabad, Ghaziabad (N.C.R.)

Abstract

A smile is a curve that sets everything straight. Its harmony could be negatively influenced by the presence of dental anomalies like alterations in shape, size, position, colour or texture. There exists tremendous peer pressure to conform to society norms. Adolescents notice if their teeth are different to others and that do not conform to the ideal of a beautiful smile. In this article two cases are discussed where in patient lacked the confidence due to spaces in the maxillary anterior teeth region.

Introduction

In the society that we live in, the young patients can easily become self conscious if their teeth are different to others. More adolescents than ever are concerned about their appearance because of the ready access to media and television. A culture of perfection has developed in the last decade. There exists tremendous peer pressure to conform to the society norms.

A midline diastema is part of normal dental development during the mixed dentition. However several factors can cause diastema that may require intervention. An enlarged labial frenum, oral habits, muscular imbalances, physical impediments, abnormal maxillary arch structure and various dental anomalies are few cited causes for the same¹. There have also recently been reports of self-inflicted pathological cases of diastema caused by tongue piercing².

A peg-shaped lateral incisor is defined as a tooth with reduced mesio-distal diameter and with proximal surfaces converging markedly in the incisal direction³. Generally, its diameter is reduced from the cervix to the incisal edge⁴. The inheritance of peg-shaped upper lateral incisors has been rather commonly assumed to be associated with the genetic mechanism that causes the missing of upper lateral incisors³. Grahnen⁵ claimed that this shape and size's alteration is a modified manifestation of the genotype that causes hypodontia. The available literature suggests that missing and peg-shaping of upper lateral incisors are different expressions of one dominant autosomal gene^{3,5}. A midline diastema may also manifest due to distal movement of centrals.

The need for treatment is mainly attributed to aesthetics and psychological reasons rather than functional ones. Possible therapeutic approaches include orthodontics, restorative dentistry, surgery and various combinations of above⁶.

In this article two cases, one of a bilateral peg-shaped maxillary lateral incisor along

with midline diastema, and another case of diastema between maxillary anteriors is described, with the conservative treatment proposed. The aim of the treatment was to close the diastema and restore the contours of the tooth with minimally invasive cosmetic dentistry treatment protocol.

Case 1

A 17-year-old female reported to the OPD of Inderprastha Dental College, Sahibabad where she was directed to the department of Conservative Dentistry. Her main complaint was the presence of a reduced anterior tooth size and spacing that affected her smile. The patient also showed dissatisfaction about the situation when asked about it, and a slight introspection was noticeable. Her medical history was uneventful.

Case 2

Another patient 22 years old with main complaint of spaces in anterior upper teeth reported to the Department. With medical history non-contributory, she had no caries and a good periodontal health. Aesthetics was the only centrefold reason to approach a dentist.

A new smile was proposed through the modified digital photographs and aesthetic mock-up of study models. A frenectomy with non-invasive indirect partial veneer was proposed as a first option and a direct bonding restoration without frenectomy as the second option was advised. However, because of financial constraints both the patients preferred the second option.

After prophylaxis and shade selection the width of central incisor and diastema were recorded for symmetrical addition of composites. Composite build up on mesial surface and stripping of the distal surface of central and laterals in order to achieve a natural shape and size of teeth were performed. To enhance the retention of composite, a coarse, flame shaped diamond instrument was used to roughen the tooth surface. No preparation was needed for peg laterals.

Acid etch conditioning was done for 15 seconds (scotchbond, 3M ESPE). Then, the tooth was rinsed and dried. A polyester strip was contoured followed by application of dentin bonding agent (Scotchbond multipurpose 3M ESPE) which was light cured. Incremental addition of composite was done which was light cured (Esthet X Dentsply). Polishing was made with discs (Sof-lex®, 3M ESPE), occlusion and esthetics were checked and verified. The patient became very happy with the final result. Patient's follow-up visits are being

scheduled for twice a year.

Discussion

In patients with diastemas greater than 3 mm wide, orthodontic treatment and indirect restorations are the most recommended procedures. However, cases where diastema is smaller than 3mm wide are frequently resolved with resin composite restoration. Advantages like low cost, reversibility of the procedure and possibility of repair justify the choice of direct restorative procedure. The use of composites with optical properties similar to those of the natural teeth allows reproducing the interdental spaces naturally and with excellence. The addition of nano particles in the composition of these materials contribute to the maintenance of the surface brightness of restoration over time, as it prolongs the longevity of the restorative procedure. The case presented could be considered as an example of slight introspection caused by a peg-shaped maxillary lateral incisor.

Literature has reported a higher prevalence of peg-shaped upper lateral incisor in females^{3,7}, which corresponds to the case presented. Kook et al.⁸ in their study found it to occur more frequently on the left side of the maxilla; however the current case presented bilateral pegged laterals. Many previous reports, in the reviewed literature, have described the association between the presence of peg-shaped maxillary lateral incisor and other developmental anomalies^{3,7,9,10,11} which increases its prevalence^{3,9,11}. So, the case reported is some kind of unusual since panoramic radiographic did not reveal any missing teeth or other dental anomaly.

Treatment plan consisted in retaining peg-shaped incisor and reshaping it with bonded composite resin. The treatment choice was made on the basis of some considerations: need for extractions, posterior relationships, position of the canines at the time of diagnosis; patient's aesthetic needs. The conservative option was chosen because it Preserves sound tooth structure, Can be placed directly onto the tooth surface, Can easily change the emergence profile and angle, and not an expensive treatment option. In addition, this technique is not time consuming like orthodontic approach¹², which was discarded since the patient lacked the time.

Conclusion

Direct composite resin restoration is a worthy conservative treatment option to restore peg-shaped maxillary lateral incisors and diastemas to normal contours. This aesthetic bonding procedure gives a natural

look and improves smile, favouring aesthetics that is a current need nowadays and an important influence factor on personal and social relationships.

References

- Huang WJ, Creath CJ. The midline diastema: a review of its etiology and treatment. *Pediatr dent.* 1995 May-June; 17(3):171-9.
- Rahilly G, Crocker C. Pathological migration: an unusual cause of midline diastema. *Dent Update* 2003; 30(10):547-9.
- Alvesalo L., Portin P. The inheritance pattern of missing, peg-shaped, and strongly mesio-distally reduced upper lateral incisors. *Dental Aktieselskabet* 1969; 18(6): 563-75.
- Le Bot P., Salmon D. Congenital defects of the upper lateral incisors (ULI): cosition and measurements of the other teeth, measurements of the superior arch, head and face. *Am J Anthropol* 1977; 46:231-44.

- Grahn H. Hypodontia in the permanent dentition. *Odont Revy* 7:supp.3, 1956.
- Gkantidis N, Kolokitha OE, Topouzelis N. Management of midline diastema with emphasis on etiology. *J Clin Pediatr Dent.* 2008 Summer; 32(4):265-72
- Meskin L.H., Gorlin R.J. Agnesis and peg-shaped permanent maxillary lateral incisors. *J Dent Res* 1969; 27:563-73.
- Kook Y.A., Park S., Sameshima G.T. Peg-shaped and small lateral incisors not at higher risk for root resorption. *Am J Orthod Dentofacial Orthop* 2003; 123(3): 253-8.
- Peck L., Peck S., Attia Y. Maxillary canine-first premolar transposition, associate dental anomalies and genetic basis. *Angle Orthod* 1993; 63(2): 99-109.
- Villani S., Stellzig A., Komposch G. Ipodontia: considerazioni sulla terapia ortodontica nell'agenesia dell'incisivo laterale superiore permanente. *Minerva Stomatol* 1995; 44(5): 211-22.
- Peck S., Peck L., Kataja M. Prevalence of tooth

agenesis and peg-shaped maxillary lateral incisor associated with palatally displaced canine (PDC) anomaly. *Am J Orthop Dentofacial Orthop* 1996; 110(4): 441-3.

- Miller W.B., McLendon W.J., Hines F.B. Two treatment approaches for missing or peg-shaped maxillary lateral incisors: A case study on identical twins. *Am J Orthod Dentofac Orthop* 1987; 92(3):249-56.

Legends

- Case 1**
 Fig.1 Pre Treatment
 Fig.2 Post Treatment
- Case 2**
 Fig.3 Diastema In Maxillary Anteriors
 Fig.4 Etching Done After Modifications of Anteriors Etched Enamel Surface
 Fig.5 Dentin Bonding Agent Application
 Fig.6 Aesthetic Reconstruction With Minimally Invasive Cosmetic Dentistry
 Fig.7

Case-1



Case-2



Tips for Optimal Oral Health

Brushing Basics	Flossing Fundamentals
 <p style="font-size: small; text-align: center;">Tilt the brush at a 45-degree angle against the gumline and roll the brush away from the gumline.</p>	 <p style="font-size: small; text-align: center;">Take 18-inches of floss and wind most of it around your middle fingers until about one inch is left.</p>
 <p style="font-size: small; text-align: center;">Clean all surfaces of the teeth, using short, gentle strokes.</p>	 <p style="font-size: small; text-align: center;">Holding the floss between the index finger and thumb of each hand, gently slide the floss between two teeth.</p>
 <p style="font-size: small; text-align: center;">Take a moment to brush your tongue to remove bacteria and freshen your breath.</p>	 <p style="font-size: small; text-align: center;">Slide floss up and down, then curve it around the base of each tooth. Never snap or force floss, as this may cut or bruise delicate gum tissue. Use clean sections of floss as you move from tooth to tooth.</p>

Additional Oral Care Tips for those with Diabetes

- Have a dental checkup at least every six months, or as often as indicated by your dental professional.
- Tell your dentist and hygienist you have diabetes and any other medical condition.
- Brush for two minutes twice a day with a toothpaste with an antigingival/antibacterial ingredient to help prevent gingivitis and one that is accepted by the American Dental Association.

Contact your dentist or hygienist if you experience any of these signs of gum disease:

- Gums that bleed or are red, puffy or swollen, or sore
- Gums that have pulled away from your teeth
- Changes in the way your teeth fit together when you bite
- Pus that appears between your teeth and gums
- Constant bad breath or a bad taste in your mouth



GoodDr's
http://www.gooddrs.com





dentomed
healthcare
www.dentomedhc.com
+91-9654350641, 9560223355