

CLINICAL REPORT

Esthetic management of fused incisors with ceramic veneers



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Differentiating between gemination and fusion can be difficult. Gemination is a malformation of a single tooth germ, resulting in a large single tooth with a completely or partially bifid crown, usually with a common root and root canal,¹ whereas fusion is the union between 2 or more teeth that develop separately.¹ After clinical and radiographic examination, if the abnormal tooth is counted as one and the number of teeth in the dental arch is normal, it is typically termed as gemination.² However, if the abnormal tooth is counted as one and the number of teeth in the dental arch is reduced, then the term fusion is used. A single wide pulp chamber with a wide root canal also provides radiographic evidence of fusion. The most commonly fused teeth are the maxillary permanent and mandibular primary incisors or canines, with premolars and molars rarely involved.³⁻⁵ Fused teeth are usually unilateral but have also been reported bilaterally.⁶

Poor esthetics is the major complaint of patients with a fused or geminated tooth due to the increased width of the tooth and spacing between teeth.⁷ The buccal and lingual grooves present on the crown extending subgingivally can impede plaque removal, increasing the incidence of periodontal disease and caries.⁶ Endodontic treatment for such teeth is not straightforward because of the presence of abnormal pulpal anatomy.⁶

A multidisciplinary approach is advocated for patients with a fused or geminated tooth. These may involve orthodontic treatment, endodontic intervention, periodontal therapy, surgical and prosthodontic management. However, not all patients will require extensive treatment, and a conservative treatment plan should be

ABSTRACT

This clinical report describes a patient for whom single veneers with pink staining were used on fused maxillary incisors to camouflage and improve dental appearance. (*J Prosthet Dent* 2019;121:217-9)

considered.⁸ This clinical report describes ceramic veneers for the conservative and esthetic management of fused teeth.

CLINICAL REPORT

A 21-year-old man presented for correction of the poor appearance of his maxillary anterior teeth. His medical and dental histories were noncontributory. The clinical examination revealed wide maxillary incisors bilaterally. The right maxillary incisor also presented with a labial groove, not extending subgingivally, leading to a partially bifid crown. Spacing was seen between the maxillary incisors and between incisors and canines bilaterally (*Fig. 1*). Counting the wide incisors as a single tooth, the number of teeth in the dental arch was reduced. Radiographic examination (*Fig. 1C*) showed the presence of wide root canals in both incisors. From the clinical and radiographic examinations, a diagnosis of fused teeth was made with respect to the maxillary incisors. Both the fused teeth were vital and noncarious.

Orthodontic management followed by prosthodontic intervention was suggested but was rejected by the patient because of treatment time and cost. Therefore, impressions were made for diagnostic casts, and a diagnostic waxing was made (*Fig. 2*). The plan was to fabricate ceramic veneers on both the incisors with gingival staining to make each tooth look like a central and lateral incisor.

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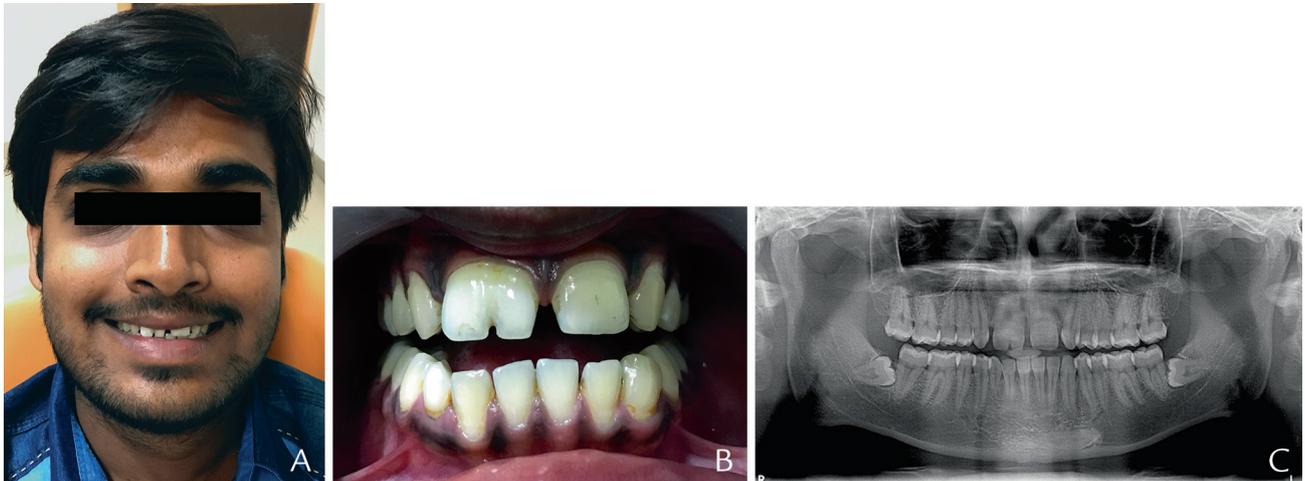


Figure 1. Patient before treatment. A, Extraoral view. B, Intraoral view. C, Panoramic radiograph.



Figure 2. Diagnostic waxing.



Figure 3. Prepared maxillary incisors.



Figure 4. Silicone putty index for verification of prepared teeth.



Figure 5. Completed ceramic veneers.

A tooth preparation index was fabricated from the diagnostic waxing by using silicone putty (Aquasil Soft Putty; Dentsply Sirona). Both incisors were prepared on the facial, mesial, distal, and incisal surfaces (Fig. 3), and reduction was verified with the preparation index (Fig. 4).

Displacement cords (Ultrapak; Ultradent Products, Inc) were placed, and an impression made with a putty and light-body impression technique (Aquasil Soft Putty and Aquasil Ultra LV; Dentsply Sirona). Interim restorations (Protemp 4; 3M) were fabricated and placed.



Figure 6. Cemented veneers. A, Intraoral view. B, Extraoral view.

The veneers were fabricated in a dental laboratory from lithium disilicate ceramic (IPS e.max Press; Ivoclar Vivadent AG) layered with IPS e.max Ceram (Ivoclar Vivadent AG). The gingival area was characterized with IPS e.max Ceram Gingiva shades (Ivoclar Vivadent AG) (Fig. 5).

The ceramic veneers were bonded to the prepared incisors with a dual-polymerizing composite resin luting cement (Variolink N; Ivoclar Vivadent AG) under isolation. The veneers resulted in a marked esthetic improvement (Fig. 6).

DISCUSSION

For this patient, orthodontic management followed by prosthetic dentistry would have been the ideal line of treatment; however, orthodontic treatment was rejected by the patient. An alternate treatment might have been

to endodontically treat both the incisors, followed by fixed partial dentures with the canines and incisors as abutments and lateral incisors as pontics after extensive preparation of the incisors, especially on their distal surface. However, as the incisors were caries free, this option was rejected. Also, extensive preparation of the incisors⁹ would have made plaque control difficult.

Extraction of the fused incisors followed by replacement of all the maxillary incisors with a tooth- or implant-supported fixed partial denture was considered. This approach would have required surgical intervention and multiple visits.

A conservative approach using a single ceramic veneer on the incisor was, therefore, chosen to imitate 2 teeth. During fabrication of the ceramic veneer, available interdental spaces were used to create anatomic sizes of central and lateral incisors. The tooth preparation required for the ceramic veneers were minimal. Plaque control was also facilitated as the patient could easily floss between the teeth.

SUMMARY

A conservative treatment of fused maxillary incisors with ceramic veneers led to an esthetic solution.

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