

Ceramic Resin-Bonded Fixed Dental Prosthesis for Esthetic Replacement of a Missing Maxillary Central Incisor: A Case Report

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Abstract

Replacement of a missing maxillary central incisor in a young adult is challenging when implant-supported rehabilitation is deferred. Resin-bonded fixed dental prostheses (RBFDPs) are a minimally invasive option, and cantilever single-retainer designs are generally favored for anterior single-tooth replacement. We report a 21-year-old man referred after orthodontic treatment for replacement of the maxillary left central incisor (tooth 21), lost to trauma in childhood. Adjacent teeth 11 and 22 were clinically firm, but radiographs showed reduced proximal alveolar bone support. Implant therapy was deferred because of the patient's age, the potential for continued dentoalveolar development, and financial constraints. A two-retainer all-ceramic RBFDP was selected because exclusive reliance on a single cantilever abutment was considered unfavorable. Preparation was confined to enamel, and a provisional composite bridge conditioned the gingival tissue at the pontic site. The prosthesis was designed digitally and pressed from VITA AMBRIA Press (VITA Zahnfabrik, Bad Säckingen, Germany), a zirconia-reinforced lithium disilicate ceramic. It was bonded under rubber dam isolation with hydrofluoric acid etching, silane, a universal adhesive, and a dual-cure resin cement. The patient later relocated and was lost to follow-up, but reported no complications after two years. A two-retainer RBFDP may be considered in young adults with reduced periodontal support when a cantilever design is not favorable, although evidence for this design remains limited.

Categories: Dentistry

Keywords: anterior tooth replacement, cantilever dental prosthesis, ceramic restorations, minimally invasive dentistry, resin-bonded fixed dental prosthesis, zirconia-reinforced lithium disilicate

Introduction

Replacement of a missing maxillary central incisor in a young adult presents a complex clinical challenge, particularly when implant-supported rehabilitation is precluded by the patient's age and ongoing dentoalveolar development. Resin-bonded fixed dental prostheses (RBFDPs) have emerged as a minimally invasive alternative for anterior single-tooth replacement, offering minimal tooth preparation limited primarily to the enamel and avoidance of surgical intervention [1,2]. While contemporary evidence generally favors cantilever single-retainer designs for their superior long-term survival [3-8], there exist specific clinical scenarios in which bilateral retention remains indicated [9]. This case report describes the prosthetic rehabilitation of a 21-year-old male patient with a missing maxillary left central incisor using a two-retainer all-ceramic RBFDP fabricated from a zirconia-reinforced lithium disilicate ceramic, with emphasis on the rationale for design selection in the context of reduced periodontal support.

Case Presentation

A 21-year-old male patient was referred from the Department of Orthodontics to the Department of Prosthodontics for replacement of the maxillary left central incisor (tooth 21), which had been lost due to trauma during childhood. The patient had completed the orthodontic phase of treatment, with the edentulous space maintained for prosthetic rehabilitation. Clinical examination revealed a single anterior maxillary edentulous space corresponding to tooth 21, with satisfactory alignment of the adjacent teeth and adequate mesiodistal space for replacement of the missing tooth (Figures 1a, 1b).

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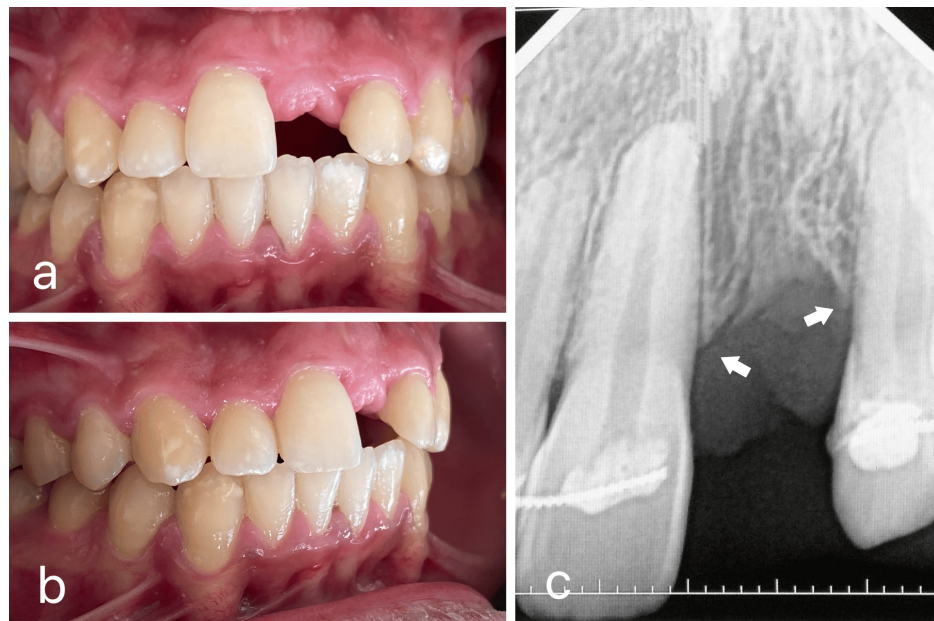


FIGURE 1: Preoperative clinical and radiographic views.

(a, b) Intraoral photographs showing the edentulous space corresponding to tooth 21, with satisfactory alignment of the adjacent teeth. (c) Periapical radiograph showing reduced proximal alveolar bone support around the adjacent teeth.

The two adjacent teeth, 11 and 22, were evaluated as candidate retainers. Both teeth were clinically firm, with no pathological mobility (Miller grade 0), and responded normally to vitality testing. Periodontal probing showed probing depths of 3 mm or less with no bleeding on probing. The slightly increased depths at the edentulous site were attributed to localized gingival enlargement (pseudo-pocket). Radiographic evaluation (Figure 1c) showed reduced periodontal support adjacent to the edentulous site, estimated at approximately 20% of root length distal to tooth 11 and 25% mesial to tooth 22, confined to the coronal third of the root. In the absence of signs of active periodontal disease, and given that tooth 21 had been lost to trauma, this reduction was attributed to post-traumatic bone remodeling and was considered stable. It was taken into account in the prosthetic design, and a two-retainer design was chosen to distribute occlusal loads between both abutments.

Implant-supported rehabilitation was deferred due to the patient's young age and the potential for continued dentoalveolar development, which may lead to infraocclusion of implant-supported crowns relative to adjacent natural teeth [10-13]. Additionally, financial constraints precluded implant therapy. Consistent with the conservative approach advocated by Kern [9,14], an RBFDP was selected as a minimally invasive and reversible alternative for anterior tooth replacement.

A two-retainer ceramic RBFDP was selected, with retainers bonded to both teeth 11 and 22 and a pontic replacing tooth 21. Because both abutments presented with reduced periodontal support, exclusive reliance on a single cantilever abutment was considered unfavorable. Bilateral retention was therefore selected to distribute functional loads across both teeth and stabilize the prosthetic unit while maintaining the orthodontically established edentulous space.

Minimal preparation was performed on the palatal and proximal surfaces of teeth 11 and 22. Proximal axial reduction was first performed with a tapered chamfer diamond bur, creating a chamfer finish line strictly confined to enamel and establishing the path of insertion. A cervical chamfer of approximately 0.5 mm depth was then prepared, placed equigingivally or slightly supragingivally. A shallow incisal shoulder was prepared with a rounded diamond bur, maintaining a distance of 2 mm from the incisal edge. The palatal fossa was reduced by approximately 0.5 mm using a flame-shaped diamond bur. The preparation was then polished with a fine-grained white stone to ensure smooth margins. Occlusal contacts were verified to confirm that none were located at the preparation limits (Figure 2).

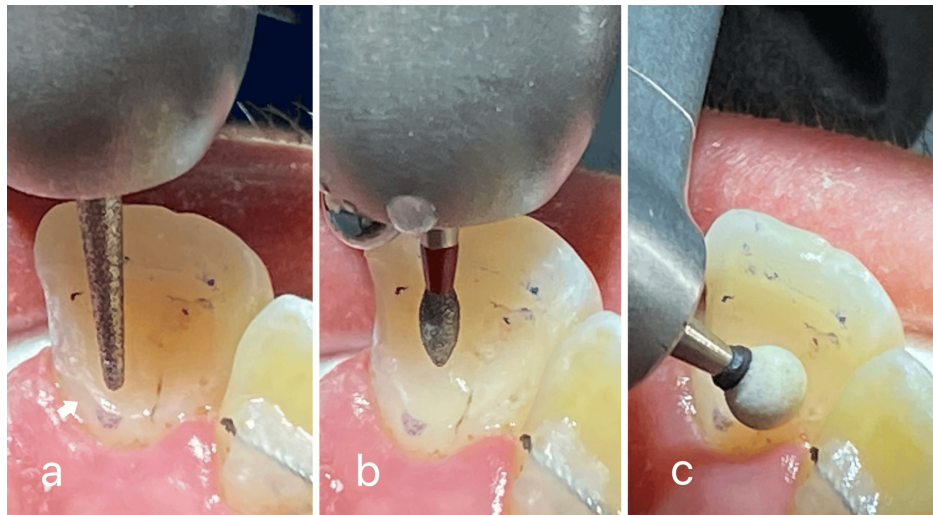


FIGURE 2: Minimal preparation of the palatal surface of tooth 11.

(a) A tapered chamfer diamond bur was used to prepare the cervical finish line. (b) A flame-shaped diamond bur was used to prepare the palatal fossa. (c) Polishing of the preparation with a fine-grained white stone.

Excess gingival tissue at the pontic site was removed using a round bur followed by a flame-shaped bur to create an optimal emergence profile and tissue contact surface (Figures 3a-3c).

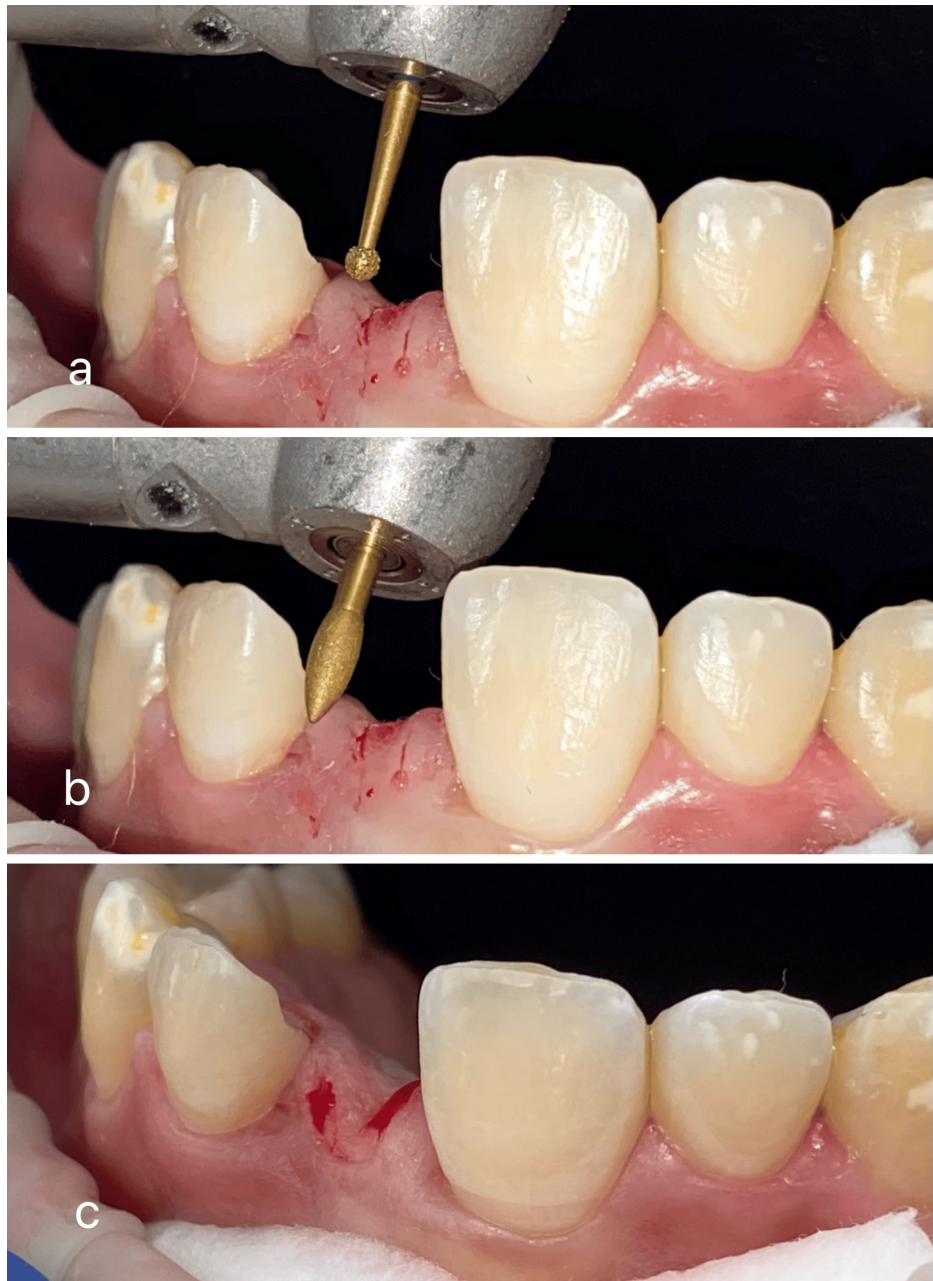


FIGURE 3: Removal of excess gingival tissue at the pontic site.

(a) A round bur was used for initial contouring. (b) A flame-shaped bur was used to refine the recipient site. (c) Final appearance of the pontic site after tissue removal.

A provisional resin composite bridge was then fabricated using a clear thermoplastic retainer as a transparent matrix. The matrix was filled with resin composite at the pontic site and wings, inserted intraorally, and light-cured. It was then removed, and the pontic was refined with flowable resin, with its contours adjusted to guide gingival healing and develop an optimal emergence profile (Figure 4a). The provisional restoration conditioned the soft tissues during healing, ensuring that the definitive prosthesis intimately adapted to the matured gingival architecture (Figure 4b).

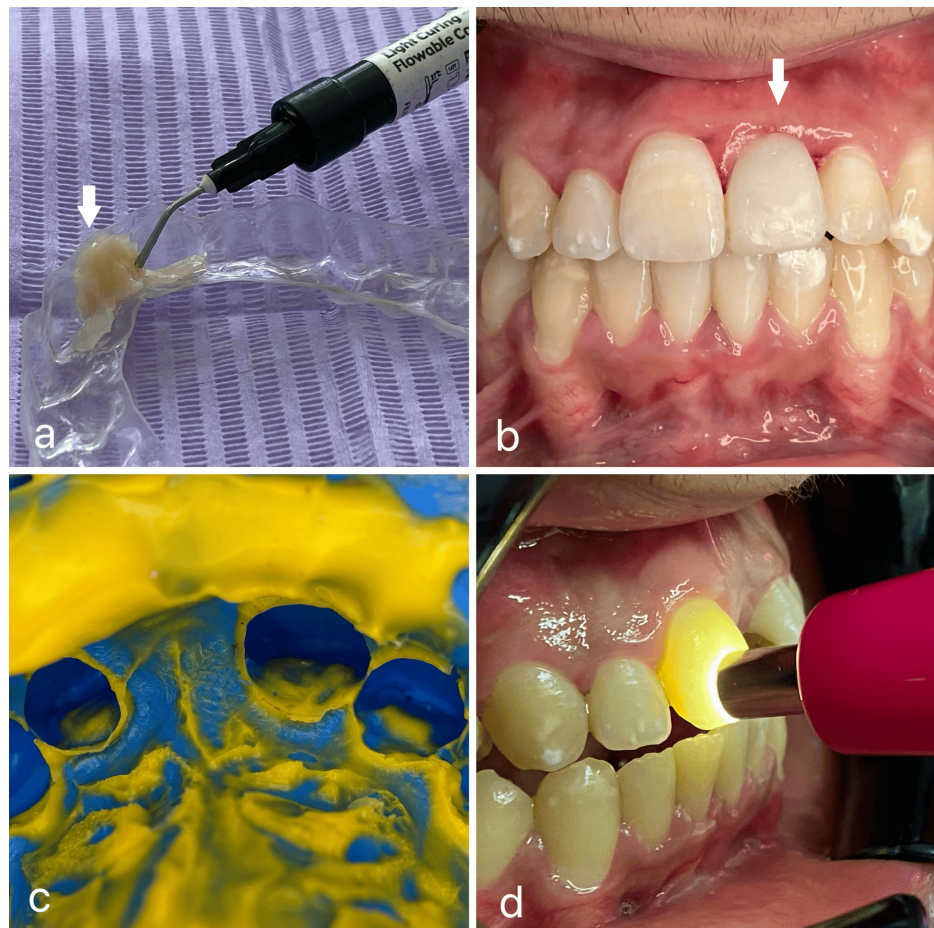


FIGURE 4: Provisional restoration and impression.

(a) Application of flowable composite to the pontic site using a clear thermoplastic retainer as a transparent matrix. (b) Intraoral view of the provisional restoration in place, showing its contours adjusted to guide gingival healing. (c) Definitive impression made using a one-step silicone technique after tissue maturation. (d) Shade determination using a VITA Easyshade V spectrophotometer (VITA Zahnfabrik, Bad Säckingen, Germany).

After tissue maturation and healing, a one-step silicone impression was made using Accusil Combo Kit (Prevest DenPro, Jammu, India) (Figure 4c). The shade was then determined using a VITA Easyshade V spectrophotometer (VITA Zahnfabrik, Bad Säckingen, Germany) (Figure 4d).

The working cast was scanned, and the RBFDP was designed using Exocad software (exocad GmbH, Darmstadt, Germany), with verification of connector and wing thickness (Figures 5a, 5b). The restoration was subsequently printed and pressed. The material selected was VITA AMBRIA Press (VITA Zahnfabrik), a zirconia-reinforced lithium disilicate ceramic (Figure 5c).

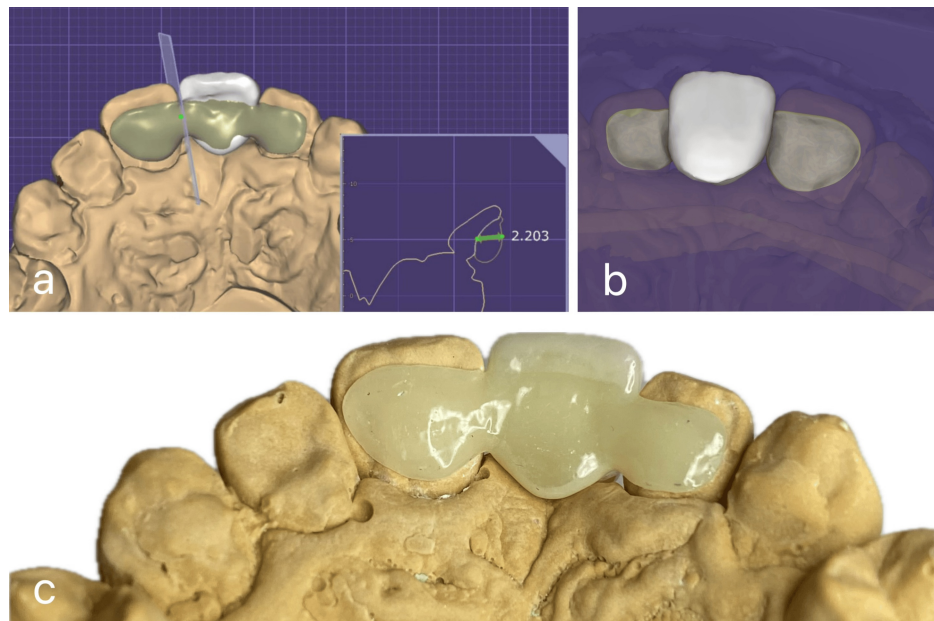


FIGURE 5: Digital design and fabrication of the RBFDP.

(a, b) Computer-aided design (CAD) of the restoration using Exocad software (exocad GmbH, Darmstadt, Germany), with verification of connector and retainer-wing thickness. (c) Final pressed ceramic prosthesis on the working cast.

RBFDP: resin-bonded fixed dental prosthesis

The definitive prosthesis was tried in the mouth to verify fit, marginal adaptation, and esthetic integration. Rubber dam isolation was then applied, and the adaptation of the bridge was verified once more before proceeding to the bonding procedure (Figure 6).



FIGURE 6: Try-in of the definitive prosthesis under rubber dam isolation.

The intaglio surface of the RBFDP was conditioned with 9% hydrofluoric acid for 20 s, followed by thorough rinsing. The surface was then cleaned with 37% phosphoric acid to eliminate insoluble reaction byproducts generated during ceramic etching. A pre-hydrolyzed silane coupling agent (BISCO Silane, BISCO, Schaumburg, IL, USA) was subsequently applied in accordance with the manufacturer's instructions (Figure 7).



FIGURE 7: Conditioning of the intaglio surface of the RBFDP.

(a) The pontic was protected with Teflon tape. (b) Application of 9% hydrofluoric acid for 20 seconds. (c) Application of 37% phosphoric acid for one minute. (d) Rinsing of the wings. (e) Application of the silane coupling agent. (f) Aspect of the wings after silane application.

RBFDP: resin-bonded fixed dental prosthesis

Following preparation of the ceramic surface, the enamel surfaces of the abutment teeth were selectively etched with 37% phosphoric acid, followed by thorough rinsing and gentle air drying. A universal adhesive (All-Bond Universal, BISCO) was then scrubbed onto the bonding surfaces, air-thinned to remove excess solvent, and polymerized for 10 s. Thereafter, a dual-cure resin luting cement (Duo-Link Universal, BISCO) was injected onto the intaglio surface of the wings. The RBFDP was then seated and maintained under constant digital pressure during initial set. Once the cement reached its gel phase, excess material was carefully removed from the margins. A glycerin-based gel was applied around the restoration margins prior to final light polymerization, thereby preventing the formation of an oxygen-inhibited layer at the adhesive interface (Figures 8a-8e).

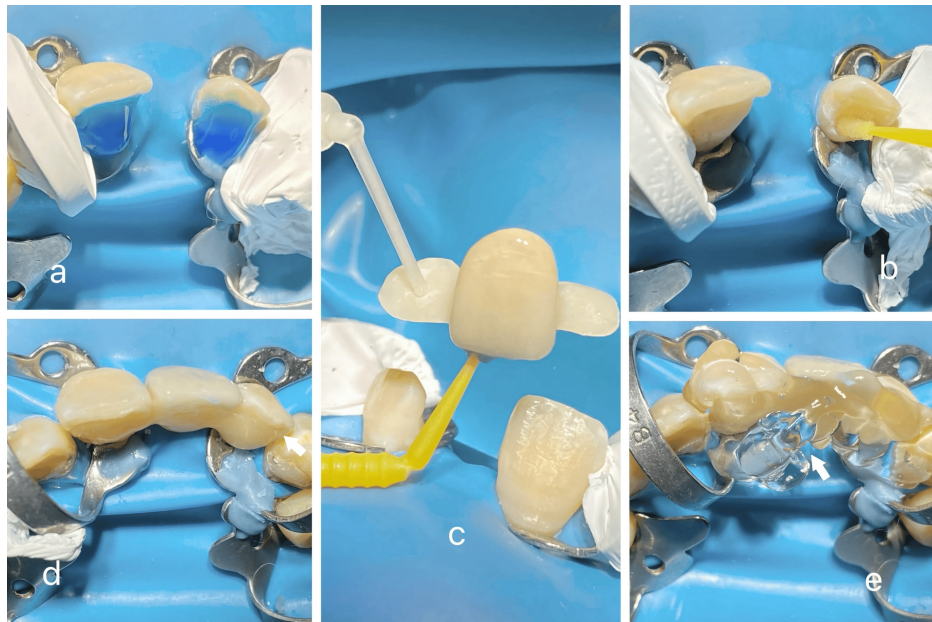


FIGURE 8: Adhesive bonding procedure under rubber dam isolation.

(a) Etching of the palatal surfaces with 37% phosphoric acid for 30 seconds. (b) Application of the adhesive system to the enamel surfaces of the abutment teeth. (c) Injection of the dual-cure resin luting cement onto the intaglio surface of the wings. (d) Seating of the RBFDP and excess removal. (e) Application of glycerin-based gel around the restoration margins followed by light-curing.

RBFDP: resin-bonded fixed dental prosthesis

Occlusion was carefully verified and adjusted where necessary, followed by final polishing of the ceramic restoration using a dedicated ceramic polishing system. The pontic and retainers were excluded from protrusive and lateral dynamic contacts to minimize shear and tensile stresses at the adhesive interfaces and reduce the risk of mechanical complications. After completion of the bonding procedure, the remaining palatal wire of the orthodontic fixed retainer was removed, and a new Essix retainer was fabricated and delivered to the patient to maintain the orthodontic result. The completed adhesively bonded RBFDP was then clinically evaluated (Figure 9). The patient later relocated and was lost to follow-up at our department. However, after two years, he reported no complications associated with the restoration, without clinical or radiographic confirmation.



FIGURE 9: Final esthetic outcome after bonding of the two-retainer all-ceramic RBFDP.

RBFDP: resin-bonded fixed dental prosthesis

Discussion

The use of a two-retainer RBFDP in the present case requires careful consideration within the broader context of contemporary evidence, which generally favors cantilever designs for anterior single-tooth replacement. This discussion examines the rationale for the two-retainer design, compares its prognosis and indications with the cantilever approach, and addresses the limitations of each.

The selection of a two-retainer design in the present case was a considered clinical decision driven by the specific anatomical and periodontal characteristics of the available abutments. Current systematic reviews and meta-analyses have generally reported superior survival of cantilever single-retainer RBFDPs compared with two-retainer fixed-fixed designs, although the available evidence is limited [3-8,15,16]. A long-term clinical study of glass-infiltrated alumina RBFDPs reported 10-year survival rates of 94.4% for cantilever designs versus 73.9% for two-retainer designs [5], and a meta-analysis found lower clinical failure for cantilever designs in the anterior region [3], with more recent reviews reporting fewer complications [6].

However, this evidence must be interpreted in the context of the populations studied, which typically featured abutments with adequate periodontal support. In the present case, radiographic examination revealed reduced proximal alveolar bone support around the adjacent teeth. This finding fundamentally altered the biomechanical considerations governing design selection. The differential mobility that can occur between two abutment teeth with dissimilar periodontal support has been proposed as a mechanism of failure in two-retainer RBFDPs, as shear and tensile stresses may concentrate at the adhesive interfaces during function [17,18]. Kern has identified that the indication for a single-retainer design requires periodontally healthy abutment teeth [9]. When the available abutments exhibit reduced periodontal support, exclusive reliance on one tooth as a cantilever abutment may increase stress on the periodontal tissue of that tooth. A finite element study reported greater periodontal tissue damage with a cantilever design when alveolar bone loss was marked (more than 4 mm below the cementoenamel junction), although such models do not establish clinical outcomes [18]. The two-retainer configuration in this context serves not as a default conventional design, but as a mechanism to distribute functional loads across both abutments, thereby mitigating the risk associated with reduced periodontal support.

Kern has described three indications in which splinting of RBFDP retainers may be considered appropriate [9]: midline splinting after orthodontic closure of a midline diastema, short straight splinting in structurally or periodontally weakened but physiologically firm abutments, and long straight splinting for replacement of three to four mandibular incisors. The present case corresponds to the second indication. Conversely, splinting is not recommended for abutments with increased mobility, replacement of lateral incisors or canines, or arch-shaped designs, due to an unacceptable risk of unilateral retention loss.

The two-retainer design may also offer a degree of functional redundancy. In a long-term clinical study, the pontic remained in situ as a cantilever for several years after unilateral connector fracture [5]. A similar

situation may occur after unilateral debonding, although this requires prompt clinical assessment because loss of one retainer may go unnoticed. This characteristic is particularly relevant in the context of a young patient for whom this restoration serves as a long-term provisional during the period preceding potential definitive implant rehabilitation. The primary objective in this phase is preservation of the orthodontically established edentulous space and maintenance of abutment tooth integrity, rather than maximizing the longevity of the prosthesis itself.

A critical consideration in two-retainer RBFDPs is the management of occlusal loading. The differential movement of the two abutment teeth during protrusive and lateral excursions can generate shear forces on the retainer wings, potentially leading to debonding [17,18]. In the present case, particular attention was directed toward occlusal design, as described in the Case Presentation section.

The material selection of zirconia-reinforced lithium disilicate ceramic (VITA AMBRIA Press) represented a considered compromise between mechanical strength and esthetic requirements. In an *in vitro* study, heat-pressed VITA AMBRIA showed a biaxial flexural strength of about 470 MPa (473.38 ± 7.93 MPa for the high-translucent and 470.34 ± 8.62 MPa for the translucent version), significantly higher than IPS e.max Press (438.30 ± 9.99 MPa), which supports its use where added strength is needed [19]. These *in vitro* data do not establish clinical performance in a two-retainer prosthesis. The connector dimensions were designed in accordance with established biomechanical principles, with a cross-sectional area of approximately 12 mm² and a connector height of 4 mm, consistent with finite element studies of connector design in lithium disilicate RBFDPs [20]. While the two-retainer design inherently results in larger connector dimensions than a cantilever design, the strength of the material may accommodate this requirement without necessitating excessive framework thickness.

The decision to defer implant-supported rehabilitation was based on two principal considerations. First, the patient's age of 21 years places him within a period of potential continued dentoalveolar development. A longitudinal study using implant markers in girls demonstrated that maxillary incisors can continue to erupt into the third decade of life [11]. Implants, being osseointegrated and ankylotic, do not participate in this physiologic eruption, resulting in progressive infraocclusion of the implant crown relative to adjacent natural teeth [13]. In a 21-year-old male patient, the risk of clinically significant infraocclusion, while lower than in an adolescent, remains a legitimate concern [12]. Second, the patient reported financial constraints that rendered implant therapy impractical at this stage. The RBFDP thus serves as a financially accessible and biologically conservative interim restoration that preserves the option of future implant rehabilitation if and when the patient elects to pursue it.

The limitations of this approach must be acknowledged. The two-retainer design has been associated with higher failure rates than cantilever designs, although debonding rates did not differ significantly in one meta-analysis [3,5]. The presence of reduced periodontal support around the abutment teeth may predispose them to increased mobility over time, potentially compromising the long-term retention of the retainers. The patient must be informed of the need for meticulous oral hygiene maintenance and regular recall examinations to monitor the periodontal status of the abutments and the integrity of the adhesive interfaces. In addition, this report is limited by its single-case design and by the follow-up. Furthermore, the decision to utilize a two-retainer design should not be interpreted as a general endorsement of this design over the cantilever approach. Rather, it represents a case-specific adaptation to the anatomical and periodontal constraints encountered.

Conclusions

This case suggests that the choice of an RBFDP design in the anterior region should follow the condition of the abutment teeth rather than a default preference. When periodontal support is reduced, sharing retention between two teeth may be a reasonable alternative to a cantilever, providing a conservative and reversible restoration until implant therapy becomes appropriate.

However, this approach rests on a single case with patient-reported follow-up only. Prospective studies with documented clinical and radiographic follow-up are needed to define its place in periodontally weakened abutments.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Amira Yousfi

Acquisition, analysis, or interpretation of data: Amira Yousfi, Zohra Noura, Belhssen Harzallah, Jilani Saafi

Drafting of the manuscript: Amira Yousfi

Critical review of the manuscript for important intellectual content: Amira Yousfi, Zohra Nouira, Belhssen Harzallah, Jilani Saafi

Supervision: Zohra Nouira, Belhssen Harzallah, Jilani Saafi

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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References

1. Mourshed B, Samran A, Alfagih A, Samran A, Abdulrab S, Kern M: Anterior cantilever resin-bonded fixed dental prostheses: a review of the literature. *J Prosthodont*. 2018, 27:266-75. [10.1111/jopr.12555](#)
2. Habibzadeh S, Khamisi F, Mosaddad SA, Fernandes GV, Heboyan A: Full-ceramic resin-bonded fixed dental prostheses: a systematic review. *J Appl Biomater Funct Mater*. 2024, 22:22808000241250118. [10.1177/22808000241250118](#)
3. Wei YR, Wang XD, Zhang Q, Li XX, Blatz MB, Jian YT, Zhao K: Clinical performance of anterior resin-bonded fixed dental prostheses with different framework designs: a systematic review and meta-analysis. *J Dent*. 2016, 47:1-7. [10.1016/j.jdent.2016.02.003](#)
4. Chen J, Cai H, Ren X, Suo L, Pei X, Wan Q: A systematic review of the survival and complication rates of all-ceramic resin-bonded fixed dental prostheses. *J Prosthodont*. 2018, 27:535-43. [10.1111/jopr.12678](#)
5. Kern M, Sasse M: Ten-year survival of anterior all-ceramic resin-bonded fixed dental prostheses. *J Adhes Dent*. 2011, 13:407-10. [10.3290/j.jad.a22096](#)
6. Alqutaibi AY, Alghauli MA, Almuzaini SA, Alharbi AF, Alsani AA, Mubarak AM, Alhaji MN: Failure and complication rates of different materials, designs, and bonding techniques of ceramic cantilever resin-bonded fixed dental prostheses for restoring missing anterior teeth: a systematic review and meta-analysis. *J Esthet Restor Dent*. 2024, 36:1396-411. [10.1111/jerd.13238](#)
7. Tezulas E, Yildiz C, Evren B, Ozkan Y: Clinical procedures, designs, and survival rates of all-ceramic resin-bonded fixed dental prostheses in the anterior region: a systematic review. *J Esthet Restor Dent*. 2018, 30:307-18. [10.1111/jerd.12389](#)
8. Minakuchi H, Miura S, Shinya A, et al.: Treatment efficacy of non-metal and single-retainer resin-bonded prostheses for anterior single-tooth loss: a systematic review. *J Prosthodont Res*. 2026, Online ahead of print:[10.2186/jpr.JPR_D_25_00320](#)
9. Kern M: *Resin-Bonded Fixed Dental Prostheses: Minimally Invasive-Esthetic-Reliable*. Quintessence Publishing, Berlin, Germany; 2018.
10. Mijiritsky E, Badran M, Kleinman S, Manor Y, Peleg O: Continuous tooth eruption adjacent to single-implant restorations in the anterior maxilla: aetiology, mechanism and outcomes-a review of the literature. *Int Dent J*. 2020, 70:155-60. [10.1111/idj.12549](#)
11. Iseri H, Solow B: Continued eruption of maxillary incisors and first molars in girls from 9 to 25 years, studied by the implant method. *Eur J Orthod*. 1996, 18:245-56. [10.1093/ejo/18.3.245](#)
12. Theytaz GA, Christou P, Kiliaridis S: Gingival changes and secondary tooth eruption in adolescents and adults: a longitudinal retrospective study. *Am J Orthod Dentofacial Orthop*. 2011, 139:S129-32. [10.1016/j.ajodo.2010.05.017](#)
13. Brugnolo E, Mazzocco C, Cordioli G, Majzoub Z: Clinical and radiographic findings following placement of single-tooth implants in young patients--case reports. *Int J Periodontics Restorative Dent*. 1996, 16:421-33.
14. Kern M: Resin-bonded fixed dental prostheses as alternative to implants in the anterior region-age as a criterion. *Implantologie*. 2016, 24:389-98.
15. Mine A, Fujisawa M, Miura S, et al.: Critical review about two myths in fixed dental prostheses: full-coverage vs. resin-bonded, non-cantilever vs. cantilever. *Jpn Dent Sci Rev*. 2021, 57:33-8. [10.1016/j.jdsr.2020.12.002](#)
16. Botelho MG, Chan AW, Leung NC, Lam WY: Long-term evaluation of cantilevered versus fixed-fixed resin-bonded fixed partial dentures for missing maxillary incisors. *J Dent*. 2016, 45:59-66. [10.1016/j.jdent.2015.12.006](#)
17. Botelho MG, Dyson JE, Mui TH, Lam WY: Clinical audit of posterior three-unit fixed-movable resin-bonded

- fixed partial dentures-a retrospective, preliminary clinical investigation. *J Dent.* 2017, 57:26-31. [10.1016/j.jdent.2016.12.003](https://doi.org/10.1016/j.jdent.2016.12.003)
18. Oishi Y, Nozaki K, Nemoto R, Yue Y, Matsumura M, Saleh O, Fueki K: Finite element analysis of stress distribution in cantilever resin-bonded zirconia fixed dental prosthesis and periodontal tissue with alveolar bone loss. *J Prosthodont Res.* 2025, 69:351-8. [10.2186/jpr.JPR_D_24_00148](https://doi.org/10.2186/jpr.JPR_D_24_00148)
 19. Al-Dwairi ZN, Fodeh RA, Nimri A, Husain NA, Tabnjh A: Evaluation of translucency and flexural strength of contemporary zirconia-reinforced lithium disilicate. *Int J Prosthodont.* 2026, 0:1-18. [10.11607/ijp.9977](https://doi.org/10.11607/ijp.9977)
 20. Liu Y, Huang Y, Chu S, Fu Q, Liu H, He F, Wang Y: Optimal design of the retainer and connector for a lithium disilicate resin-bonded fixed partial denture: a finite element analysis study. *J Prosthet Dent.* 2025, 134:424.e1-15. [10.1016/j.prosdent.2025.01.035](https://doi.org/10.1016/j.prosdent.2025.01.035)