



Blending Beauty and Function: Dual Rehabilitation with Implant-Supported Crowns and Veneer-Aided Smile Enhancement

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ABSTRACT:

Comprehensive aesthetic rehabilitation of the anterior maxillary region often requires a multidisciplinary approach to address both missing teeth and compromised adjacent dentition. The integration of implant-supported restorations with porcelain laminate veneers offers a conservative and predictable treatment modality for restoring function while simultaneously enhancing smile esthetics. This case report describes the rehabilitation of a 36-year-old male patient who presented with implants in relation to the maxillary left central and lateral incisors along with discoloration and spacing involving adjacent anterior teeth. A combined restorative approach was undertaken using implant-supported layered zirconia crowns and porcelain laminate veneers to achieve functional rehabilitation and aesthetic smile enhancement. The treatment successfully restored missing dentition, improved shade uniformity, corrected spacing, and harmonized the overall smile design. At four-month follow-up, the restorations demonstrated excellent functional stability, favorable peri-implant tissue health, and satisfactory aesthetic integration. This report highlights the effectiveness of dual rehabilitation using implant-supported restorations and laminate veneers in achieving predictable aesthetic and functional outcomes in anterior smile rehabilitation.

1. Introduction

Replacement of missing anterior teeth with implant-supported restorations has become a widely accepted treatment modality due to its predictable long-term outcomes and ability to preserve surrounding oral structures.¹ Implant-supported crowns restore function, phonetics, and aesthetics effectively when planned appropriately within the aesthetic zone.² However, in many clinical situations, patients presenting for implant rehabilitation may also exhibit adjacent aesthetic concerns such as tooth discoloration, spacing, altered morphology, or disharmonious smile proportions that cannot be corrected by implant restoration alone.³

In such scenarios, isolated replacement of missing teeth may not provide complete smile rehabilitation. Comprehensive aesthetic treatment often requires adjunctive restorative procedures to achieve symmetry, shade harmony, and natural integration between implant restorations and adjacent dentition.⁴ Porcelain laminate veneers represent a minimally invasive and highly

aesthetic treatment modality for correcting anterior discoloration, spacing, and shape discrepancies while preserving natural tooth structure.⁵

The simultaneous use of implant-supported restorations and porcelain laminate veneers allows clinicians to address both functional deficits and cosmetic concerns in a single comprehensive treatment plan. This combined restorative strategy facilitates harmonious smile design by improving tooth alignment, contour, color, and proportional balance while ensuring functional rehabilitation.⁶

This case report describes a dual rehabilitation approach utilizing implant-supported zirconia crowns and porcelain laminate veneers for complete aesthetic and functional rehabilitation of the maxillary anterior region.

2. Patient Presentation

A 36-year-old male patient presented to the Department of Prosthodontics for prosthetic rehabilitation of



maxillary left central and lateral incisors (21 and 22) (Fig no. 1). The patient expressed dissatisfaction with the appearance of his smile due to broken anterior teeth, discoloration of adjacent teeth, and spacing in the upper anterior region. These concerns had adversely affected his confidence and smile aesthetics. The patient also reported a previous history of restorative dental treatment performed approximately two to three years prior.

Clinical and radiographic examination revealed healthy implant integration in relation to teeth 21 and 22 with satisfactory osseointegration and no evidence of peri-implant pathology. Additionally, discoloration of the maxillary right central incisor, lateral incisor, and canine was noted, along with spacing between the anterior teeth and disharmonious smile proportions. Given the patient's aesthetic demands, a comprehensive treatment plan was formulated to rehabilitate the implants with implant-supported crowns while simultaneously improving the appearance of the adjacent dentition using laminate veneers.

3. Treatment Approach

Following clinical evaluation and treatment planning, stage II surgery was performed to expose the implants and assess peri-implant soft tissue contours (Fig no. 2). Implant-level impressions were made to record the implant position accurately, and intraoral scanning was carried out to digitally design the prosthetic restorations (Fig no. 3). The definitive prostheses were planned using CAD software to optimize morphology, contour, and aesthetic integration with adjacent teeth (Fig no. 4).

Minimal tooth preparation was performed on the adjacent anterior teeth using conservative depth-orientation grooves to preserve enamel and provide space for laminate veneer fabrication. Layered zirconia crowns were fabricated for the implant-supported restorations in relation to teeth 21 and 22 to achieve strength, translucency, and aesthetic compatibility with the natural dentition. Porcelain laminate veneers were fabricated for the adjacent discoloured and spaced teeth to improve tooth morphology, close interdental spacing, and establish shade harmony (Fig no. 5).

A bisque trial was conducted to evaluate fit, occlusion, phonetics, and aesthetics before definitive cementation. Following satisfactory clinical verification, the final

restorations were cemented using dual-cure resin cement. Occlusal adjustments were performed to establish proper anterior guidance and eliminate premature contacts or excursive interferences.

4. Clinical Outcome

Post-treatment evaluation demonstrated significant improvement in smile aesthetics, tooth proportions, and facial harmony (Fig no. 6). The implant-supported crowns blended naturally with the veneer restorations, resulting in a seamless transition between prosthetic and natural dentition. The patient reported high satisfaction with the final aesthetic outcome and improved confidence while smiling. At four-month follow-up, the restorations remained stable with healthy peri-implant tissues, satisfactory gingival response, and no evidence of functional or mechanical complications.



Fig. 1. Pre-operative Photograph



Fig. 2. Extraction Followed by Immediate Implant Placement W.R.T 21,22



Fig. 3. Primary Coping Trial and Laminate preparation

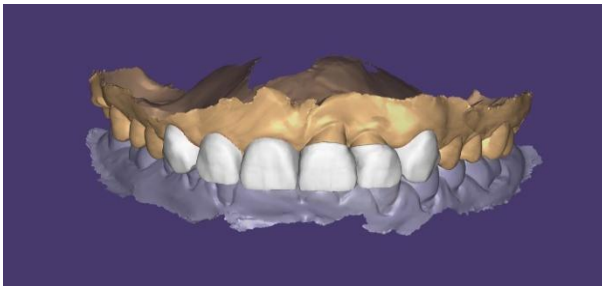


Fig. 4. Designing In CAD Software



Fig. 5. Post-Operative Photograph



Fig. 6. Follow-Up After 4 Months

5. Discussion

Achieving aesthetic success in the anterior maxillary region requires restoration not only of missing teeth but also of overall smile harmony and proportional balance.⁷ Implant-supported restorations provide predictable replacement of missing teeth; however, when adjacent teeth exhibit aesthetic deficiencies such as discoloration, spacing, or morphological discrepancies, implant crowns alone may fail to achieve complete smile integration.⁸

In the present case, although implant-supported rehabilitation addressed the replacement of missing teeth, adjunctive treatment of the surrounding dentition was necessary to establish a harmonious and balanced smile. The use of porcelain laminate veneers in conjunction with implant-supported crowns enabled simultaneous correction of spacing, discoloration, and tooth morphology while preserving natural tooth structure. Veneers are widely recognized as one of the most conservative aesthetic treatment modalities, offering excellent long-term survival and predictable outcomes when bonded to enamel.^{5,9}

A major challenge in dual rehabilitation cases is achieving uniform shade and translucency between implant-supported restorations and natural teeth. Implant crowns often differ from natural teeth in optical behaviour due to differences in restorative material thickness, abutment shade, and light transmission.¹⁰ By restoring adjacent teeth with veneers, the clinician can harmonize colour, translucency, and morphology across the anterior segment, thereby improving overall aesthetic integration.¹¹

Layered zirconia was selected for implant-supported crowns in this case because of its superior strength, fracture resistance, and excellent aesthetic properties. Zirconia restorations have demonstrated favorable mechanical performance and biocompatibility in anterior implant restorations while maintaining soft tissue health.^{12,13}

Occlusal planning remains critical when combining implant-supported restorations with veneers, particularly in the anterior region where restorations are subjected to significant lateral and protrusive forces. Implants lack periodontal ligament proprioception and therefore require careful occlusal adjustment to minimize overload



and reduce biomechanical complications.¹⁴ In the present case, proper anterior guidance and occlusal refinement were established to protect both implant-supported and adhesive restorations.

The successful outcome of this case demonstrates that dual rehabilitation using implant-supported crowns and porcelain laminate veneers can provide highly predictable functional and aesthetic outcomes when carefully planned and executed through a multidisciplinary restorative approach.

Conclusion

Dual rehabilitation using implant-supported crowns in conjunction with porcelain laminate veneers represents an effective and conservative treatment modality for comprehensive anterior smile rehabilitation. This approach allows simultaneous restoration of missing teeth and correction of adjacent aesthetic deficiencies, resulting in harmonious integration of function and aesthetics. Careful interdisciplinary planning, material selection, and occlusal management are essential to achieving predictable long-term success and patient satisfaction.

References

1. Wang Y, Bäumer D, Ozga AK, et al. Patient satisfaction and oral health-related quality of life 10 years after implant placement. *BMC Oral Health*. 2021;21(1):30.
2. Bidra AS. Three-dimensional aesthetic analysis in implant-supported prosthesis. *J Esthet Restor Dent*. 2011;23(4):219-236.
3. Coachman C, Calamita MA. Digital smile design. *Quintessence Dent Technol*. 2012;35:103-111.
4. Spear FM, Kokich VG. Multidisciplinary approach to aesthetic dentistry. *Dent Clin North Am*. 2007;51(2):487-505.
5. Gürel G. Porcelain laminate veneers: minimal tooth preparation. *Dent Clin North Am*. 2007;51(2):419-431.
6. Peumans M, De Munck J, Fieuws S, et al. Ten-year clinical trial of porcelain veneers. *J Adhes Dent*. 2004;6(1):65-76.
7. Jivraj S, Chee W. Treatment planning of implants in aesthetic zone. *Br Dent J*. 2006;201(2):77-89.
8. Belser UC, Schmid B, Higginbottom F, Buser D. Outcome analysis of implant restorations in anterior maxilla. *Int J Oral Maxillofac Implants*. 2004;19:30-42.
9. Coachman C, Paravina RD. Digitally enhanced aesthetic dentistry. *Quintessence Dent Technol*. 2016;39:103-111.
10. Sailer I, Makarov NA, Thoma DS, et al. All-ceramic vs metal-ceramic prostheses. *Dent Mater*. 2015;31(6):603-623.
11. Magne P, Belser U. Bonded porcelain restorations in the anterior dentition. Quintessence Publishing; 2002.
12. Thoma DS, Ioannidis A, Cathomen E, et al. Discoloration of implant crowns. *Int J Prosthodont*. 2016;29(1):99-110.
13. Janda M, Mattheos N. Prosthetic design for peri-implant health. *Br Dent J*. 2024;236(10):765-771.
14. Kim Y, Oh TJ, Misch CE, Wang HL. Occlusal considerations in implant therapy. *Clin Oral Implants Res*. 2005;16(1):26-35.