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ENHANCING ORAL HEALTH: A NOVEL APPROACH IN PREVENTIVE PROSTHODONTICS WITH TOOTH-SUPPORTED BPS OVERDENTURE & FLEXIBLE REMOVABLE PARTIAL DENTURE

Mohsin Khan

Assistant Professor, Department of Prosthodontics, Sri Sai College of Dental Surgery, Vikarabad, Hyderabad, India

Abstract: This paper presents a novel approach in preventive prosthodontics, combining a tooth-supported BPS (Biofunctional Prosthetic System) overdenture and a flexible removable partial denture. The objective of this study was to provide a comprehensive oral rehabilitation solution for patients with compromised dentition, aiming to preserve the remaining natural teeth and enhance oral health. The tooth-supported BPS overdenture was designed to retain and stabilize the weakened natural teeth, while the flexible removable partial denture addressed the edentulous areas, restoring masticatory function and aesthetics. A clinical case report of a 55-year-old patient with severe dental attrition and multiple missing teeth illustrates the successful application of this innovative approach. The combined use of the tooth-supported BPS overdenture and flexible removable partial denture not only improved masticatory efficiency but also contributed to maintaining the health of the remaining dentition. This study demonstrates the effectiveness and potential benefits of this preventive prosthodontic approach in preserving oral health and function.

Keywords: Preventive prosthodontics, tooth-supported BPS overdenture, flexible removable partial denture, oral rehabilitation, dental attrition, compromised dentition, masticatory function, oral health, dental restoration, case report.

INTRODUCTION

Prosthodontics plays a vital role in restoring oral function, aesthetics, and overall quality of life for patients with compromised dentition. Conventional prosthodontic solutions often involve extensive tooth preparation, leading to a higher risk of tooth structure loss and potential complications in the long term. In recent years, preventive prosthodontics has emerged as a promising approach to preserve and protect the remaining dentition while addressing the edentulous areas. This paper introduces a novel preventive prosthodontic approach that combines a tooth-supported BPS (Biofunctional Prosthetic System) overdenture and a flexible removable partial denture. The objective of this innovative approach is to enhance oral health by providing a comprehensive oral rehabilitation solution that minimizes the impact on natural teeth while restoring masticatory function and aesthetics.

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METHOD

Patient Selection:

A 55-year-old patient with severe dental attrition and multiple missing teeth was chosen as the subject for this case study. Comprehensive oral examination, radiographic analysis, and dental impressions were performed to assess the patient's dentition and determine the extent of the dental compromise.

Treatment Planning:

A multidisciplinary team comprising prosthodontists, oral surgeons, and dental technicians collaborated to develop a comprehensive treatment plan. The primary goal was to preserve the remaining natural teeth while addressing the edentulous areas with a prosthodontic solution that offers stability, function, and aesthetics.

Tooth-Supported BPS Overdenture Fabrication:

The teeth with compromised structure but still viable for preservation were identified, and they were prepared to receive the tooth-supported BPS overdenture. Precise dental impressions were taken to create the overdenture framework, and the BPS overdenture was fabricated using advanced digital denture technology.

Flexible Removable Partial Denture Design and Fabrication:

For the edentulous areas, a flexible removable partial denture was designed to provide a secure fit and natural appearance. The use of flexible materials allowed for optimal retention and reduced strain on the adjacent natural teeth.

Tooth-Supported BPS Overdenture Placement:

The tooth-supported BPS overdenture was carefully placed over the prepared natural teeth and adjusted to achieve a stable and comfortable fit. The overdenture provided retention and support to the remaining teeth, preventing further wear and improving occlusal stability.

Flexible Removable Partial Denture Insertion:

The flexible removable partial denture was inserted to restore the edentulous areas, completing the oral rehabilitation. The flexible design allowed for minimal adjustments and enhanced patient comfort.

Post-Treatment Follow-Up:

Regular follow-up visits were scheduled to evaluate the function, aesthetics, and patient satisfaction with the combined prosthodontic approach. Any necessary adjustments or modifications were made during these follow-up visits.

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This innovative preventive prosthodontic approach involving the combination of a tooth-supported BPS overdenture and a flexible removable partial denture offers a promising solution to enhance oral health while preserving the natural dentition. Through this case study, we aim to demonstrate the effectiveness and benefits of this novel approach in preventing further dental deterioration and providing long-term oral health and function for patients with compromised dentition.

RESULTS

The combined approach of a tooth-supported BPS overdenture and a flexible removable partial denture proved to be highly effective in enhancing oral health and function for the 55-year-old patient with severe dental attrition and multiple missing teeth. The tooth-supported BPS overdenture provided stable retention and support to the compromised natural teeth, preventing further wear and preserving their integrity. Additionally, the flexible removable partial denture addressed the edentulous areas, restoring masticatory function and aesthetics. The patient reported a significant improvement in chewing ability, speech, and overall oral comfort following the rehabilitation process.

DISCUSSION

This novel approach in preventive prosthodontics emphasizes the importance of conserving the remaining natural dentition while effectively addressing the areas of tooth loss. By combining the tooth-supported BPS overdenture and the flexible removable partial denture, a comprehensive oral rehabilitation solution was achieved, offering numerous benefits over conventional approaches. The tooth-supported BPS overdenture allowed for minimal tooth preparation, reducing the risk of complications associated with extensive tooth reduction. It also promoted occlusal stability and evenly distributed forces during mastication, preventing further dental attrition.

Furthermore, the flexible removable partial denture provided a secure fit and natural appearance for the edentulous areas, promoting patient comfort and confidence. The flexible design allowed for excellent retention without putting excessive strain on the adjacent natural teeth. This combination of prosthodontic solutions offered the patient a more conservative, yet highly functional and aesthetically pleasing outcome.

The multidisciplinary nature of this treatment approach played a crucial role in the success of the rehabilitation. Collaboration among prosthodontists, oral surgeons, and dental technicians ensured a comprehensive treatment plan that met the patient's unique needs and goals. The use of advanced digital denture technology facilitated precise fabrication and optimal fit of the prostheses, contributing to the overall success of the treatment.

CONCLUSION

The combined approach of a tooth-supported BPS overdenture and a flexible removable partial denture in preventive prosthodontics represents a novel and promising solution for patients with compromised

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dentition. This innovative approach allowed for the preservation of the remaining natural teeth while effectively addressing tooth loss in a conservative yet functional manner. By focusing on maintaining the integrity of the dentition and providing stable prosthodontic solutions, this approach enhances oral health, function, and aesthetics.

The successful outcome of this case study demonstrates the potential benefits of this novel approach and highlights the importance of individualized treatment planning in prosthodontics. As preventive prosthodontics continues to evolve, the combination of advanced technologies, multidisciplinary collaboration, and patient-centered care will likely play a key role in achieving long-lasting and favorable results for patients with compromised dentition. This study serves as an important contribution to the field, encouraging further research and consideration of this innovative approach in preventive prosthodontics to enhance the oral health and well-being of patients.

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