Edentulism in the Fifth Decade: Progressive Tooth Loss and Prosthodontic Rehabilitation: A Case Report

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ABSTRACT

Tooth loss is a progressive condition that can adversely affect oral function and facial aesthetics if not managed appropriately. This case report presents the management of a female patient in her early fifties who reported to the Prosthodontics Department with complaints of gradual tooth loss and discomfort during mastication. Clinical examination revealed complete edentulism of the maxillary arch and partial edentulism of the mandibular arch, attributed to long-standing periodontal disease. A primary impression was made, the maxillomandibular relationship was recorded, and following correction of the malocclusion, a final secondary denture was fabricated. At the two-week follow-up, the patient reported significant improvement in mastication. This case highlights the importance of early diagnosis and dental awareness in preventing progressive tooth loss.

Key Words: *Edentulism, Partial edentulism, complete edentulism, Prosthodontic rehabilitation, complete denture, Partial denture*

Introduction

Tooth loss is a common problem around the world that affects people of all ages and is not limited to the elderly. It has often been perceived as a natural event of life and sometimes even as a solution to pain [2] .However, in middle aged individuals, it is not a natural process. One of the leading causes of such tooth loss is periodontal disease, which damages the gums and bone supporting the teeth. Factors such as initial attachment loss, bone height loss, and poor nutritional intake have been shown to significantly contribute to tooth mortality [3,4].Socioeconomic status has been shown to greatly influence oral health awareness and outcomes, as individuals with lower education levels and limited financial resources often lack access to dental care and adequate knowledge of oral hygiene practices [1] .What makes this case unique is that the patient is only in her 50s, which is not an age at which one would expect complete edentulism of the maxillary arch and partial edentulism of the mandibular arch. This case is being reported to describe how this patient was managed, and what steps were taken to rehabilitate her.

Case Report

A female patient in her early fifties reported to the Prosthodontics Department of IDH with complaints of gradual tooth loss, along with discomfort during mastication of hard foods, however there was no discomfort during normal function or impression procedures. The patient also complained of esthetic concerns related to complete upper and partial lower edentulism.

According to the patient, the loss of teeth had been occurring progressively over a period of nearly four months, although she could not recall the exact beginning. Clinical examination showed a completely edentulous upper arch and a partially edentulous lower arch, with missing teeth being #31,

32, #36, # 37, #44, #45, and # 46. The absence of teeth in the upper arch was due to a mix of planned extractions and natural tooth loss, whereas in the lower arch, certain teeth were extracted due to poor prognosis.

Based on the clinical findings and patient history, the pattern of tooth loss was most consistent with long-standing periodontal disease, which had led to gradual loosening and eventual loss or extraction of teeth. In addition, the patient had been diagnosed with type 2 diabetes mellitus three months prior and was undergoing medical treatment for the condition. She reported taking medication for diabetes regularly but was unsure about the exact names or dosages. She also mentioned occasional use of analgesics to manage her dental discomfort.



Figure 1: *Intraoral view showing complete edentulism of the maxillary arch and partial edentulism of the mandibular arch.*

Management

A primary impression was made for both the maxillary and mandibular arch to fabricate a primary denture. The maxillomandibular relationship (MMR) was recorded to check for balanced occlusion, which revealed the presence of a malocclusion. Following the correction of the malocclusion, a new primary denture was fabricated, which was then used as a basis to construct the final secondary denture.

Outcome

At the two-week follow-up, the patient reported significant improvement in mastication following the placement of the recommended complete denture for the upper arch and partial denture for the lower arch.



Figure 2: *Post-rehabilitation intraoral view showing maxillary complete and mandibular partial dentures.*

Discussion

Dental awareness is crucial for maintaining oral health and preventing complications such as tooth loss. Early intervention could have allowed for timely management of the patient's condition, potentially avoiding advanced deterioration. Full edentulism rarely occurs suddenly; it usually develops over years due to untreated cavities, periodontal disease, or other oral health issues. In this case, the patient had likely experienced progressive tooth decay and loss but was not aware of it due to limited dental awareness. The patient opted for a removable full denture for several reasons such as affordability, quicker treatment, and comfort with a non-surgical option. Dental implants, although providing better stability and long-term benefits, involve surgery, higher cost, and longer treatment duration, which the patient preferred to avoid at this stage. Regular dental check-ups and timely management of cavities or periodontal issues could have prevented full tooth loss.

This case underscores the importance of patient education and awareness in preventing progressive tooth loss. Community-based dental awareness campaigns, particularly in areas with limited access to education or healthcare, can play a vital role in promoting oral hygiene practices and encouraging regular dental visits.

Conclusion

This case highlights the importance of early recognition and management of progressive tooth loss in an elderly female, estimated to be in her early 50s. Complete edentulism at this age is uncommon,

but in this patient, it likely developed due to limited awareness of oral hygiene and lack of regular dental care. Removable dentures offered an effective, non-surgical solution to restore oral function and improve the patient's quality of life. Furthermore, the case underscores the need for increased dental awareness and education, particularly in populations with limited access to oral healthcare, to prevent similar outcomes.

References

1. Lima de Paula, Lara Melina Leite, et al. "The course from tooth loss to successful rehabilitation with denture: feelings influenced by socioeconomic status." SAGE Open Medicine 7 (2019): 2050312119874232.

2. Ong, G. "Periodontal disease and tooth loss." International dental journal 48.S3 (1998): 233-238.

3. Hung, Hsin-Chia, et al. "Tooth loss and dietary intake." The Journal of the American Dental Association 134.9 (2003): 1185-1192.

4. AHMAD, SALMAN, Maryam Amin, and Rida Naseer. "Effect of socioeconomic status, education level, and type of denture hygiene knowledge and practices of denture wearers.' Pakistan Oral & Dental Journal 35.2 (2015).