Narrative: Case History 2

The selected case history describes a 76-year-old retired housewife who requires dental treatment.

History

Social and Medical Histories

The patient has two adult daughters and five grandchildren; she and her husband live independently. She recognizes the need for a higher level of home care for her spouse and plans to move to a retirement home soon. Her past medical history includes osteoporosis diagnosed in her fifties and generalized degenerative arthritis. She had a right hip replacement 8 years ago and is now suffering from severe arthritis in both hands. She has recognized that she has been shrinking and takes bisphosphonate medication along with anti-inflammatory medication when her joint pain becomes uncomfortable. She appears to be healthy, exercises daily by walking, and is also taking yoga classes. She stopped smoking in her early thirties.

Dental History

She has been partially edentulous in the mandible for 25 years and even longer in the maxilla. Tooth loss was caused by poorly managed caries and periodontal disease. She has had varying experiences with several sets of removable prostheses, the present ones being $>$ 12 years old. She has worn the present set of removable partial dentures (RPDs) only intermittently. In recent years, she visited the dentist irregularly, mainly for extractions and alterations of the prostheses. Regular maintenance visits were not attended since her dental insurance coverage ran out and her husband required extensive home care and medical office attendance due to his impaired physical health status.

When asked about current symptoms or pain sensation related to her oral health, she mentioned that her jaw joints are frequently painful, particularly following meals that included meat dishes or a fresh salad. Her diet is limited to softer foods. She reports that her RPDs are ill-fitting and she is particularly dissatisfied with her mandibular RPD. She adds that her natural teeth are beginning to feel sensitive to cold drinks. She also complains that her maxillary anterior teeth appear to be longer and more exposed than in the past, and that she constantly bites her lower lip.

She is willing to invest funds and time in safe and predictable dental treatment that will result in a better-looking and more comfortable mouth, as well as prostheses that are easier to take care of.

Clinical and Radiographic Examinations

Bilateral discomfort to palpation in both temporomandibular joints, but unlimited opening and side-to-side movements with bilateral crepitus, was readily detectable. A loss of her vertical dimension of occlusion (VDO) appears to be present when the RPDs are not in place. Also, the lower lip catches under the incisal edges of the maxillary anterior teeth when the RPDs are inserted.

Partial edentulism and generalized vertical bone loss are present. Secondary caries is observed along the open margins of the existing restorations, particularly in the anterior maxilla where the RPD's major connector covers both tooth surfaces and marginal gingival tissues. Personal oral hygiene is fair, but digital dexterity with a toothbrush appears to be compromised.

In the edentulous regions, limited bone quantity is available due to advanced alveolar ridge resorption and/or increased pneumatization of the maxillary sinus cavities. Both RPDs are unstable and retention is inadequate.

Preliminary Diagnosis

Functionally and esthetically compromised dentition is apparent as a result of the presence of a number of determinants of a nonphysiologic occlusion.

- Kennedy Class I partial edentulism in the maxilla and mandible
- Generalized mild chronic periodontal disease
- Temporomandibular disorder (TMD) of the degenerative arthritis variety (associated symptoms may be related to the accompanying loss of VDO)
- Esthetic compromises

Clinical Judgment Considerations

The described case history with a bilaterally free-end situation in the maxilla and the mandible offers a large variety of reconstructive treatment options for a patient who is willing to invest time, commitment, and finances for an improved oral health situation. This variety could

range from optimizing or replacing the existing RPDs to a more complex fixed cantilever prostheses, removable overdenture treatment, or even fixed implant treatment.

Irrespective of the selected prosthodontic intervention option, treating the periodontal disease and managing the caries lesions present are prerequisites. Furthermore, the loss of vertical dimension must be compensated for in order to seek to reduce pain from the TMD and to improve occlusion, esthetics, and function. The complaints related to biting the lower lip and exposing the maxillary anterior teeth are most likely related to the VDO loss with the existing RPDs. It can be readily managed by establishing an adequate occlusion with any type of prosthodontic management option. If the intervention is restricted to the posterior region, anterior occlusal contacts would be lost and this could require anterior compensatory restorations (eg, palatal composite restorations or crowns in the maxilla).

While removable prostheses facilitate replacement of an unlimited number of occlusal units, fixed cantilever prostheses allow for the substitution of only very limited additional units in the distal position and result in a shortened dental arch or a premolar occlusion.

When selecting new RPDs, the goals of optimal retention and stability should be matched with framework designs that are conducive to favorable ecologic relationships with the supporting and surrounding tissues. The patient's perception regarding the undesired prominent appearance of her anterior maxillary teeth should be seen in the context of her VDO and other clues regarding what may contribute to a protrusion of the maxillary incisors.

The consideration of offering what might be regarded as the most likely comfortable prosthodontic solution demands discussion of the merits of implant-supported fixed prostheses. Potential host site considerations and her medication history then become compelling concerns in the effort to reconcile the inherent merits of the technique with her chronologic, social, and health realities.

Another consideration in selecting the best prosthodontic management protocol would be the patient's current and anticipated restrictions in the context of her future frailty risk with limited abilities to perform personal oral hygiene, particularly when degenerative arthritis affects both of her hands. Her expressed desire for a situation that is easy to take care of is a strong reminder that any recommended treatment intervention will have a time-dependent outcome that cannot be ignored.

This particular case history of an elderly and medically compromised patient, who may eventually become functionally restricted, provides a range of clinical judgment considerations that need to be reconciled with the best evidence-based information regarding her optimal prosthodontic management.

Recommended References

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