COMMENTARY

Preprosthetic Orthodontic Intervention for Management of a Partially Edentulous Patient with Generalized Wear and Malocclusion[1]

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The authors of this case report achieved an outstanding esthetic and functional outcome for their patient.[1] Still, a consideration of potential alternatives to the use of temporary anchorage devices and traditional orthodontic mechanics to accomplish orthodontic intrusion is worthwhile because orthodontic intrusion contributed to a 33-month orthodontic treatment time the authors acknowledge would be objectionable to many adult patients. Orthodontic treatment was clearly indicated to correct the patient's maxillary midline discrepancy, to achieve bilateral Class I canine relationships, and to accomplish space redistribution before prosthodontic rehabilitation because no other treatment modality could have achieved these important objectives. The interocclusal space gained through orthodontic intrusion, although effective, might have been accomplished by alternate treatment approaches with less complexity, reduced treatment time, and improved diagnostic certainty.

A possible alternative to orthodontic intrusion would include occlusal device therapy to potentially disclose a greater discrepancy between centric occlusion and maximal intercuspal position. The approximate 0.5-mm discrepancy noted by the authors may have provided 1 to 1.5 mm of interocclusal restorative space. A more superior condylar position gained through occlusal device therapy could have provided the additional 2-mm or more interocclusal space needed to restore this patient while avoiding the treatment complexities and time required for orthodontic intrusion. If occlusal device therapy failed to a achieve a more superior condylar position, an increase in occlusal vertical dimension through mandibular rotation about the transverse horizontal axis might have gained enough interocclusal space for prosthodontic restoration with only an approximate 1.5- to 2.5-mm increase in the contracted muscle length of the elevator muscles.

The feasibility of prosthodontic restoration after achieving a more superior condylar position alone, in combination with an increase in occlusal vertical dimension, or entirely through an increase in occlusal vertical dimension would depend upon diagnoses made in centric relation at each potential therapeutic occlusal vertical dimension. Important diagnostic factors would include patient and soft-tissue tolerance, interarch relations, and occlusal plane analysis. These potential alternative approaches would have made possible the immediate preparation, assessment of restorability, and provisional restoration of maxillary teeth. More immediate provisional restoration of the maxillary arch would have permitted both assessment of the therapeutic occlusal vertical dimension and immediate orthodontic treatment of the maxillary arch. Orthodontic treatment of the mandibular arch might have been avoided. More immediate provisional restoration would have also increased diagnostic certainty by perhaps preventing the unanticipated extraction of teeth #5 and #12, and may have even caused the authors to make a different orthodontic extraction pattern decision.

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The views expressed in this commentary are those of the author and do not necessarily reflect the official policy or position of the Department of the Air Force, Department of Defense, nor the US Government.

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This brief commentary was not intended to serve as a critique of the authors' treatment, but rather to stimulate thought, study, and research. Because the diagnosis and management of occlusal vertical dimension is controversial, more research on this important topic would be very useful to those clinicians who are called upon to treat patients with apparent inadequate interocclusal space for restoration.

REFERENCE

1. Bidra AS, Uribe F. Preprosthetic orthodontic intervention for management of a partially edentulous patient with generalized wear and malocclusion. J Esthet Restor Dent DOI 10.1111/j.1708-8240.2011.00491.x.

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