Prosthetic Rehabilitation of a Patient with Oral Dyskinesia

Devendra Chopra, Amrit Tandan, Vaibhav Gupta

ABSTRACT

The aim of prosthetic rehabilitation is to restore the patient to an optimum esthetics and normal function. Proper application of various prosthodontic concepts can make the prostheses functionally acceptable to the patient. This case report projects the management of a patient suffering from edentulous dyskinesia.

Keywords: Dentures, Oral dyskinesia, Neuromuscular disorder.


INTRODUCTION

Individuals with compromised medical health, who seek complete denture treatment, belong to the old age. The impairment in stomatognathic functions, like mastication, deglutition, speech and esthetics, are further compounded by compromise in systemic health status of the patient. The recognition and diagnosis of systemic related conditions, lesions and anomalies are components of history—examination process, essential in planning complete dentures treatment and estimate of prognosis. Oral dyskinesias consist of abnormal, involuntary, uncontrollable movements predominantly affecting the tongue, lips and jaw. They often vary in complexity, distribution and severity. They may go unnoticed or cause social embarrassment, oral traumatic injury, speech difficulty, chewing and eating disorders, inability to wear prosthetic devices, or affect professional activities. Edentulousness is thought to be a common cause of oral dyskinesia.¹,²

The purpose of this case report is to describe the management of a completely edentulous patient suffering from edentulous oral dyskinesia.

CASE REPORT

A 58-year-old female completely edentulous patient reported with edentulous oral dyskinesia and complains of ill-fitting two sets of dentures to the Department of Prosthodontics, Institute of Dental Sciences, Bareilly, with inability to chew food since 2 years.

Extraoral examination reveals asymmetry of the face. There was no impairment of speech, and lips were competent at rest. Lateral deviation and protrusion of the jaw was noticed. Intraoral examination reveals completely edentulous maxillary and severely resorbed knife edged mandibular arch (Figs 1 and 2).

Neuromuscular function and coordination are foundation for successful and stable dentures. Failure to diagnose importance of flange contour and teeth position in patient suffering from edentulous oral dyskinesia often leads to unstable dentures. The fit and comfort of the denture in a knife-edged mandibular ridge can be achieved by providing a denture with a softliner on it. Stability of the dentures can be improved with monoplane occlusion concept.

TECHNIQUE

Following are the steps for fabrication of complete dentures:

1. Conventional impression technique is being used to make the primary impression for maxillary and mandibular arches with the help of modeling plastic compound.

2. Custom special trays are fabricated with autopolymerising resin, border molding with low fusing green stick compound is being done and final impressions made with zinc oxide eugenol impression paste. Final casts are poured with dental stone.

3. Orientation and vertical jaw relation has been performed in a conventional way. Due to involuntary mandibular tremors, three recall visits were necessary to record the horizontal jaw relation. These visits have been made to guide the patient to close her mandible in the exact centric relation.

4. Teeth arrangement is done in a conventional way following the monoplane occlusion concept.
5. Maxillary denture has been processed in a conventional manner and soft liner is given in a mandibular denture (Fig. 3).
6. After finishing and polishing denture insertion was done, and post insertion instructions were given to the patient (Fig. 4).

**DISCUSSION**

Neuromuscular function and coordination are foundation of successful and stable dentures. The prosthodontist is often a key member in the management of oral dyskinesia. First, orodental complications must be evaluated and treated diligently. Replacing ill-fitting dentures or offering proper fit on the supporting structures can preclude ulcers and discomfort. In edentulous subjects, wearing dentures, proper adjustment of the occlusion and relining have also improved the intensity of oral dyskinesia, drug induced or not.3-7 The final vertical dimension selected was comparatively greater than that of the previous denture in several reported cases.3,4,6

Sutcher et al argue that edentulousness (along with incorrect occlusions produced by inadequate dentures) chronically distorts most of the peripheral proprioceptive input from the stomatognathic system necessary for central sensorimotor integration, thereby promoting dyskinesia. Nevertheless, the efficacy of the proposed occlusal therapy exemplifies the contribution of the sensory inputs to the expression of the dystonia. The difficulty with this approach lies with the fact that it is an individualized and somewhat arbitrary method of positioning the mandible anteriorly in occlusion. The benefit
of Sutcher et al’s approach has been reported anecdotally in few cases, and the difference in outcome between patients who do or do not display an effective geste antagoniste remains unclear.³

In this case report, two concepts were applied in the fabrication of complete dentures. Firstly, the monoplane occlusion concept was given in the dentures and for that zero degree cusp teeth were selected. Due to variation in centric relation, freedom of centric is being provided by monoplane teeth as monoplane occlusion suffers less of a derangement of occlusal relations from inevitable ridge relations.⁸ Secondly, mandibular denture with a softliner is being fabricated because the patient reported with the knife-edge resorbed ridge. As it is a well-known fact that denture with softliner provides cushioning effect to the supporting tissues. The soft denture liner was applied to dentures for the edentulous patients with poor residual ridge and thin mucosa. It is useful for minimizing the soreness caused by the denture during mastication. Takahashi, in his study, found that masticatory muscles functioned more rhythmically, and mandibular movements became smoother, when compared subjects who wore denture with softliner and denture without softliner.⁹

Periodic follow-up visits were made to evaluate the performance of the dentures, and the patient was satisfied with the new sets of dentures (Fig. 5).

CONCLUSION

Proper education and motivation is important for these patients, and the caregiver regarding the prosthodontics treatment. Oral dyskinesia is variable in phenomenology and functional impairment, and may be drug related or a sign of neurologic condition at any age, or caused by orodental factors. After dyskinesia is being identified, the prosthodontist should consult with the medical personnel for the proper diagnosis of the patient. This paper has emphasized care and application of concepts to provide the prosthesis which is functionally acceptable to the patient suffering from edentulous or denture-related dyskinesia.

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REFERENCES