Prosthodontic Rehabilitation of a Patient with Unilateral Facial Paralysis: A Rare Clinical Report

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ABSTRACT
Facial paralysis is a condition that involves loss of control of facial muscles on the affected side and is generally sudden in onset. The nerve involved is the VII cranial nerve. This report presents the prosthodontic management of a patient for both function and esthetics and thus enhances his self-esteem. Our approach was to use a technique that enables the patient to stabilize the mandibular movements and use the fabricated denture successfully.

Keywords: Case report, Dental appearance, Flaccid muscles, Musculoskeletal disorder.

BACKGROUND
Facial paralysis is a condition that involves loss of control of facial muscles on the affected side and is generally sudden in onset. The nerve involved is the VII cranial nerve. The commonly involved etiological factors are immune or viral diseases (herpes zoster oticus), trauma (iatrogenic, accidental), ischemia of the nerve (neoplasms), or idiopathic (Bell’s palsy). Based on the site of the neurons affected they are classified as upper motor neuron (UMN) and lower motor neuron (LMN) paralysis.

The clinical findings associated are inability to smile and close eyes on the affected side, reduced taste sensation, spasms of facial muscles, and asymmetry of face. Tests such as the blink test, facial expressions, stapedial reflex checking, Schirmer test, and taste testing in the anterior two-thirds of the tongue support the diagnosis.

CASE DESCRIPTION
A 60-year-old male patient reported to the Department of Prosthodontics with partially missing teeth. The patient gave a history of facial paralysis on the left side of his face 8 months back, after which he experienced facial asymmetry, mouth deviation, drooping of food from the left corner of the mouth, absence of wrinkles on the forehead, and slurred speech (Fig. 1).

Extraoral examination revealed asymmetry of the left side of his face when he tried to smile or close his eyes with a maximal effort. House–Brackmann grade IV—moderately severe dysfunction—may be applied to the paralysis.

On intraoral examination, a well-rounded, firm completely edentulous maxillary ridge and partially edentulous mandibular ridge was noticed. The remaining mandibular teeth were attrited and periodontally weak. Oral prophylaxis was carried out to reduce periodontal risk to the remaining teeth.

Our treatment plan was a modified complete denture with respect to the maxillary arch and a plate removable partial denture (RPD) for the lower arch having monoplane teeth.

Primary impressions were made for the upper and lower edentulous arches using irreversible hydrocolloid. A diagnostic cast was obtained. Custom trays were constructed for upper and lower arches using autopolymerizing polymethyl methacrylate resin.

Border molding was done, and final impressions were obtained. The borders of the affected side were made thick to add adequate buccal sulcus support (Fig. 2). The preserved lower teeth were used to determine the occlusal vertical dimension.

To replicate the symmetry of his face and preserve esthetics, the anterior teeth were set according to the shifted midline. The monoplane posterior teeth were selected as they help in easier closure for uncoordinated movements, prevent lateral stresses, and...
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Conclusion
A corrective surgical procedure of the affected nerve would be the ultimate cure for any unrecovered facial paralysis. However, in complicated cases where surgery is not a choice, oral prosthesis plays a vital role in the patient’s well-being.

Clinical Significance
The patient had satisfactory response as he can chew better now and had improved appearance and speech. Monoplane teeth selected for the rehabilitation of the facial paralyzed patient were found to be very effective in minimizing damage to the tissues supporting the denture and preventing lateral stresses, and also helped in easier closure for uncoordinated mandibular movements.

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