



REHABILITATION OF ALZHEIMER PATIENT WITH COMPLETE DENTURE CHARACTERIZATION: A CASE REPORT

Dental Science

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ABSTRACT

Alzheimer's disease (AD) is a major disorder occurring in old age and the most common cause of dementia. Dementia results in loss of intelligence, memory, and cognitive functions. It is usually related with aging, but there are many possible causes. Identification of these edentulous patients having dementia can pose a tough challenge. Denture marking serves as the only answer to this problem. This case report highlights the denture marking done in Alzheimer patients.

KEYWORDS

Alzheimer disease, complete denture, denture marking, patient detail.

INTRODUCTION

Alzheimer's disease (AD) is the most common form of dementia, and patients with severe AD experience problems associated with cognitive function such as aphasia, apraxia, agnosia, and disorientation along with dementia, making daily social activities difficult^{1,2}. Dementia is a clinically characterized by a severe loss of intellectual function in an ageing patient as no other cause is found.

The number of persons affected with AD is likely to double or triple in the next 25 years. Hence, dental professionals will have to face a serious situation of sustaining and preserving dental health in geriatric patients with dementia. Dental treatment planning, oral care, and behavioral management for persons with AD must be designed with consideration of the severity of the disease and must involve family members⁴.

All over the world, 47.5 million people suffered from dementia in 2015, and there are 7.7 million new cases every year⁵. In India, 40–50% of edentulous patients are rehabilitated mainly with conventional complete denture. It has been predicted that by the year 2020, the world will have more than one billion people aged ≥ 60 and more than 2/3rd of them living in developing countries. With better awareness, it is likely that number of denture wearers would increase. Identification of these denture wearers in various scenarios such as natural and mass disasters and in disease such as dementia, which is common among elderly patients, can be a tough challenge. Denture marking serves as the only answer to this problem⁶.

This case report highlights a patient with Alzheimer disease showing signs of dementia rehabilitating with complete denture with identification marks in it.



Fig. 1: a. Final Cast; b. Jaw Relation; c. Try-in

CASE REPORT

A 71 year old female patient reported to the Department of Prosthodontics, Crown & Bridge, K M Shah Dental College & Hospital, Sumandeep Vidyapeeth, Vadodara, Gujarat with the chief complaint of lost old complete denture. Her medical history revealed that she developed severe AD which suddenly worsened in 2 years, resulting in severe cognitive impairment. She has been medicated with NMDA inhibitors and cholinesterase inhibitors. With her husband's help, we were able to briefly assess her oral condition and established the necessity for fabrication of a complete denture.

A set of maxillary and mandibular complete dentures with balanced articulation was made according to the principles and techniques recommended in contemporary complete denture textbooks⁷⁻⁹ (Figure 1).

She was old denture wearer since 2 years but because of Alzheimer disease she forgets her denture where it is kept. And then she cannot recognize the denture sometimes. To make her identify and remember her prosthesis both the dentures were characterized with the identification marking in the denture. For the identification purpose patients photograph, address and contact number was incorporated on the palatal surface in the maxillary denture and on the lingual surface in the mandibular denture. Because of that identification marking it was easy for the patient to identify the denture and even if she forgets her prosthesis somewhere it helped others also to return it to her (Figure 2).



Fig. 2: a. Denture Marking; b. Wax-up & Carving; c. Final Processed Denture

Occlusal adjustment of the denture was done using the articulating paper to remove lateral cuspal interferences when she was awake. Her husband was instructed on how to manage the denture, including insertion, removal, and cleaning.

After 7 days, a follow up was done for denture adjustment. Her husband expressed that she did not complain or showed any sign of pain or discomfort caused by the denture. Also, she was able to eat soft solid diet.

DISCUSSION

Complete Denture success depends, largely on the wearer's ability to manage the dentures with their oral musculature. It additionally depends on the presence of a sufficient quantity and quality of saliva. The impact of dementia can hamper a person's ability to wear dentures. The movement disorders like dyskinesia, muscle spasms, muscle in-coordination, rigid facial muscles, sucking reflex, reduced salivary function, postural hyper-salivation and poor muscle control that may occur in dementia conspire to jeopardize denture retention and control, resulting in loose dentures¹⁰.

Maintaining oral hygiene would facilitate all patients with dementia. This care should be taken with respect for the oral mucosa, however, as treatment and care without taking proper consent is an assault, except in case of an emergency^{11,12}. Persons having AD are required to maintain good oral health and maintain regular dental care, however; this habit is encouraged lifelong for better oral health. Short appointments for patients with AD can be less stressful. Frequent recall and aggressive preventive measures should be continued. Treatment plans should be designed with minimal changes to the oral cavity and should not involve complete rehabilitation¹³.

In a study by Whittle et al¹⁴, the dental health of community residents between 65 and 96 years of age in the early stages of dementia was compared with that of a control group. The two groups were similar with respect to recent pain, chewing difficulties, retention and stability of dentures, uneven occlusion, and needs for treatment. But the dentures of persons with dementia were significantly older and less clean. Soft-tissue deposits affected 71% of upper dentures and 66% of lower dentures in persons with AD; among controls, they affected 39% and 38%, respectively. This finding was in agreement with the known poor personal hygiene habits of elderly patients with dementia.

All dentures belonging to individuals with dementia should be marked with their name. New dentures should be permanently marked during construction, by the technician¹⁵. Currently old dentures can be provisionally marked using easy technique which will last for 6–12 months. The denture should be checked periodically to make sure the name remains legible; and marking revived as necessary. Naming dentures won't mean that it will prevent denture losses. However, it does mean that when dentures are found they will be reunited with their owner.

CONCLUSIONS

Older adults are the most rapidly growing segment of the population. Therefore, diagnostic and management strategies for AD should be improved. Also, from our clinical observations, it was observed that patient used to forget the denture repeatedly because of dementia. Thus denture marking with the name, contact detail and photo of her was helping her find the denture. Thus, denture marking helped minimize the distress caused due to impaired ability and dementia. Denture treatment for complete denture wearers improved not only the denture function but also activation of the cerebral function. In addition, the wearing of partial dentures by patients classified based on Eichner's, Classification, increased brain function activation after chewing. These results also suggest that the occlusal contact area and occlusal force have an influence on brain function activation¹⁶.

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