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Surrogate Request for Visual Brand Identification for a Completely Edentulous Patient with Dementia

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Abstract Aging of the brain brings decline in memory and thinking. The condition ranges from mild to severe with no clear distinct border. Waning in cognitive skills causes' functional impairment, which if neglected could lead to problems of self-feeding and self-care. Non-verbal communication is an essential component that promotes initiation of self-care. This article describes a rare case of an elderly female patient who was successfully able to remind herself about self-feeding with the help of a complete denture prosthesis that had a visual brand identifier incorporated on the occlusal surfaces of the artificial teeth.

Keywords: *self-feeding, complete denture, occlusal surfaces, artificial resin teeth*

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1. Introduction

Dementia is basically an overall term that describes a wide range of symptoms associated with a decline in memory or other thinking skills severe enough to reduce a person's ability to perform everyday activities. In the scientific terms, it is a syndrome of decline in cognitive domains that causes functional impairment. Types are in the form of early and advanced dementia. Taste, smell, food avoidance and attention deficits are earliest warnings. [1-3] Impairing of minimum two core mental functions like memory, communication and language, ability to focus and pay attention, reasoning, judgment and visual perception are mandatory to make one eligible to be suffering from the condition. Dementias are progressive, slow in onset, but worsen quickly.

Problems associated with the onset of dementia include communication barriers such as word finding problems, using the same words, using empty phrases and maintaining a conversation. [4-11] In advanced cases, serious problems include that of self-feeding and self-care. Treatments of severe cases include the use of feeding tubes, modified oral high calorie supplements, enhanced dining environments and personal assistance. [11-19] Oral high calorie supplements has been clinically studied with good results [20-32].

Effective communication in both forms, verbal and non-verbal is essential to such patients. Various therapeutic ways have been developed for patients with dementia to express and communicate like use of memory aids, [33] group meals, [34,35] the mirror as a therapeutic tool, [36] music therapy, [37] singing by carers, [38] dance and movement, [39] communication training for family carers [40,41] and care home staff [42,43] and communication techniques for later-stage dementia. [38]

This article describes a rare clinical case report in which a request was made by the patient's caregiver to design a method of visual brand identification of complete dentures to remind the patient not only about its use but also as a reminder tool for self-nourishment.

2. Clinical Case Report

Figure 1. Extra oral view of the patient

A middle aged geriatric male person reported to the department of Prosthodontics seeking a solution for his spouse. The female patient aged 64 years old, living presently with her husband, was suffering from dementia without undergoing any medical treatment was completely edentulous since last 7 years (Figure 1). Medical history

was non-contributory to dental treatment, though the severity of dementia was significant as revealed by her spouse. Social history revealed that the couples were staying alone as their children were settled in other respective places. Due to economic reasons, the spouse of the patient was not available at home during the day time. Examination revealed that the patient had lost her teeth earlier than anticipated due to oral neglect.

The patient had been wearing dentures in the past but with passage of time and onset of dementia, was unable to use them efficiently due to which she had lost considerable weight since last 6 months. Significant findings in the history included forgetting to cook, eat or drink, forgetting self-care needs like hygiene maintenance, nutrient, diet intake and many other day to day activities. Two areas of concern for her spouse were that the patient would forget the actual wearing of dentures as well as their use. After thorough diagnosis, treatment plan included incorporation of a visual identifier in the complete denture prosthesis that the patient would wear in the form of prefabricated occlusal surfaces.

After obtaining the informed consent from patients care giver, a detailed case history and clinical examination were done, following which the regular clinical and laboratory procedures for fabrication of the complete denture prosthesis were followed. Preliminary impressions with an irreversible hydrocolloid (CA 37; Cavex, Haarlem, Holland) were made, followed by a special tray fabrication with methyl methacrylate acrylic resin (Major C&B-V Dentine, Major, Moncalieri, Italy) on which the final impressions were made. Jaw relations were recorded and the casts were mounted on a Hanau Widevue semi adjustable articulator (Waterpik, Ft Collins, CO, USA) with the help of a face bow (Quick Mount, Hanau). Incorporation of a visual brand identifier was done at the stage of teeth arrangement in the form of artificial posterior teeth. Prefabricated resin teeth with metal occlusal were selected and arranged on the programmed articulator (Figure 2).

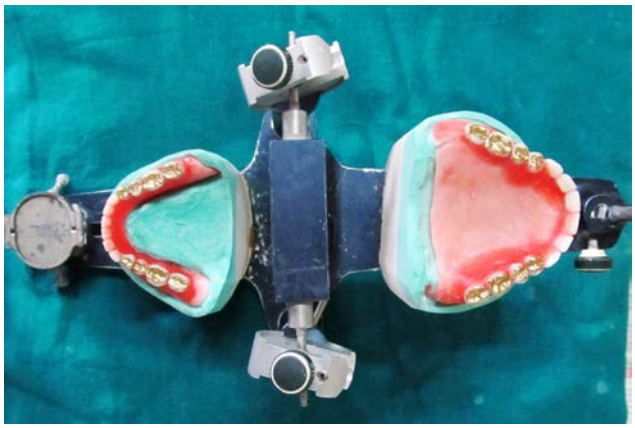

Figure 2. Artificial teeth used as visual brand identification aids

The teeth were arranged in such a way so that the occlusion would be balanced bilaterally. This was achieved by incorporation of necessary compensating curves within the occlusal plane by changing the inclination of the teeth till the opposing cusps were in balance. After the denture trial, the dentures were processed (Figure 3) and the final insertion of the complete denture prosthesis was done (Figure 4 and Figure 5). Instructions were given to the patient regarding maintenance of the complete denture prosthesis.

Figure 3. Processed complete denture prosthesis

Figure 4. Complete denture prosthesis in the patient's oral cavity

Figure 5. Extra oral view with complete denture in place

3. Discussion

The first issue that is related to patients with dementia is obviously their decision making ability. With longer life expectancy in modern times, most of us need an increasing amount of care as we age and rely on others help. Patients with dementia have a much more serious problem. For geriatric patients who are single and live alone, the problem is grave. Most of the developing countries do not have the infrastructure in the form of a health care proxy or agents who could act as surrogate decision makers for such patients. [45,46] guardians,

spouse, adult son or daughter, parent, brother or sister and even a close friend of a patient can be a health care surrogate decision maker. [47] Direct communication between the doctor and the patient is always preferred. Patients with dementia, especially those having a surrogate decision maker are not able to reveal information which doctors need nor can they assess the success of their treatment unless the surrogates are sincere in their care. Conflict of interest on the part of the surrogates does exist and information should be assessed before drawing conclusions.

To ensure a successful outcome, the post insertion phase was modified to ensure patient benefit. Three sets of dentures were made with similar occlusal surfaces and the patient's spouse was instructed to keep one denture in every room for the initial seven days post first follow up which was done after 3 days following insertion. In addition to verbal instructions, video assisted education was also delivered. The first step included enhancing dentures ability to remind the patient about self-feeding. The patient's spouse was instructed that before he leaves for work in the morning he should ensure that each denture is placed in three different rooms that they owned. This increased the chance of patient self-feeding on seeing the dentures once the patient developed the sense that dentures were meant only for eating. Patients' ability to recognize dentures as objects that are related to eating comes initially with forced practice by the caretaker. During this phase, the spouse of the patient was instructed to have group meals and that the caretaker should insert the dentures just before the meals were served.

4. Conclusion

Identification of a dementia disorder is a major challenge in neuroscience. Delaying the onset of dementia in fact has been mentioned as one of the 125 most important research topics in many science journals. Because most of the patients are in the age where wearing of partial or complete dentures are common, Prosthodontists are in good position to help victims especially where the problem of oral feeding

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Conflict of Interest

None

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