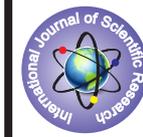


Management of a fake looking denture with characterization of complete denture base



Dental Science

KEYWORDS: characterization, melanin, denture base, psychological acceptance.

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ABSTRACT

Characterization of the complete dentures is necessary to give the dentures a life like appearance, to make it appear more natural. Every denture should be characterized according to the particular patient, rather than doing a pearl like arrangement of artificial teeth with a twinkling, plane sheet of acrylic resin denture base which quickly reveals it to be false. Complete dentures can be characterized by two basic methods, characterization by selection, arrangement and modification of artificial teeth and characterization by tinting the denture bases. A case report of management of a patient who is not satisfied with function and esthetics of fake looking denture was carried out. Conventional complete dentures with teeth arrangement based on SPA concept and characterization of denture base was the treatment imparted. The patient was happy and satisfied with the teeth arrangement, occlusion and the esthetics of the new, better and more natural looking dentures as it gave patient a more natural look.

Summary: Characterization is a procedure in which the character or collective qualities of a person are introduced in the complete denture, to make it appear more natural for that particular person. Characterization of the complete dentures is necessary to give the dentures a life like appearance, to make it appear more natural. A patient who was dissatisfied with her old denture due to its poor function and esthetics, especially the fake looking denture was managed by providing conventional complete dentures with teeth arrangement based on SPA concept and characterization of denture base with melanin pigment in the cervical and attached gingiva area. The denture flanges were transparent to reflect the underlying ridge color. Patient was satisfied with her new, better and more natural looking dentures. It improved patient's confidence and provided psychological acceptance of complete dentures.

Frush and Fisher, stated that the environment of the teeth is as important as the tooth itself.¹ According to Hardy, To meet the esthetic needs of the denture patient, we should make the (denture) teeth look like (the patient's) natural teeth.²

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According to GPT 8 Characterization is to alter by application of unique markings, indentations, coloration and similar custom means of delineation on a tooth or dental prosthesis thus enhancing natural appearance.

Complete dentures can be characterized by two basic methods, characterization by selection, arrangement and modification of artificial teeth and characterization by tinting the denture bases.³

The teeth can be modified to harmonize with the patient's age, sex, and personality to provide subjective unity. Fisher said that gender, personality, and age can be used as guidelines for tooth selection, arrangement, and characterization to enhance the natural appearance of the individual.²

Pound was the first to suggest a method of tinting acrylic denture bases to simulate the gingival color. Kemnitzer used a combination of blue and brown stain to reproduce the melanotic pigmentation of the gingiva.³

Indication for characterization of denture base are patients with an active upper lip, patients with a prominent pre-maxillary process, actors, singers and others who may expose gum tissues areas during their performances and for the psychological acceptance of the dentures by the patient.

The smooth, pink, polished surface of an average acrylic denture quickly reveals it is false. The surface of the denture base can be modified by stippling, providing alveolar eminence, inflamed or bulbous gingiva and palatal rugae.⁴ Literature also supports use of tints in the denture bases. Copying gingival texture and contours contributes to the natural appearance of labial flanges in complete dentures by causing uneven reflection of light. This reduces the shine and reflection typically seen in highly polished denture flanges. It provides a more natural appearance. Some of the techniques found

in the literature are offset bur technique, toothbrush technique, blow wax technique and Sponge onto the softened wax technique by Suresh Nayar and Nicholas W. Craik.⁶ Pattanaik described the usage of tissue paper for internal characterisation⁷

The method of simulating melanin pigmentation, involves the use of brown and purple resins for those with pigmented oral tissues. Brush-on or paint-on technique-John L. Powers³ suggested that dusting and wetting technique is all-imaginary in the absence of the patient and its time consuming. Therefore, he developed a technique to apply the tinting material directly to the finished denture after processing, in the presence of the patient.³

Ideal requirements of denture base tinting materials are that it should be readily miscible with methyl methacrylate resin. It should be non-toxic. It should not add appreciable bulk to denture bases. It should be stable and non-fading. It should be resistant to loss from abrasion in cleaning and in normal function. It should not alter the properties of the denture base resins.⁸

Clinical case

A fifty year old female patient reported to the department of Prosthodontics Crown and Bridge, MCODS, Manipal, Karnataka, with a chief complaint of bad looking denture for past four years.

On intra oral examination, maxillary ridge was adequate and mandibular ridge was resorbed. The current denture had ill arranged teeth in bright pink acrylic with poor esthetics which patient felt gave an overtly fake teeth appearance to her face.

Taking the anatomic, functional and esthetic considerations of the patient, following treatment protocols could be - conventional complete dentures or implant supported over dentures for maxillary and mandibular arches.

Radiographic findings revealed poor bone quality and quantity in mandibular arch and patients financial condition did not favor implant supported maxillary overdenture.

Hence conventional upper and lower complete dentures with characterization of denture bases were planned. This characterization would involve melanin pigmentation in the area of cervical and attached gingiva of denture base, while leaving the remaining area transparent. SPA concept by Frush and Fisher for proper teeth arrangement was planned.

Clinical steps of making primary impressions with alginate (Tropicalgin Zermack), secondary impressions with light body elastomeric impression material (Reprosil light body), recording of maxillomandibular relationship, teeth arrangement as per SPA concept and try in of waxed complete denture were done. (Figure 1)

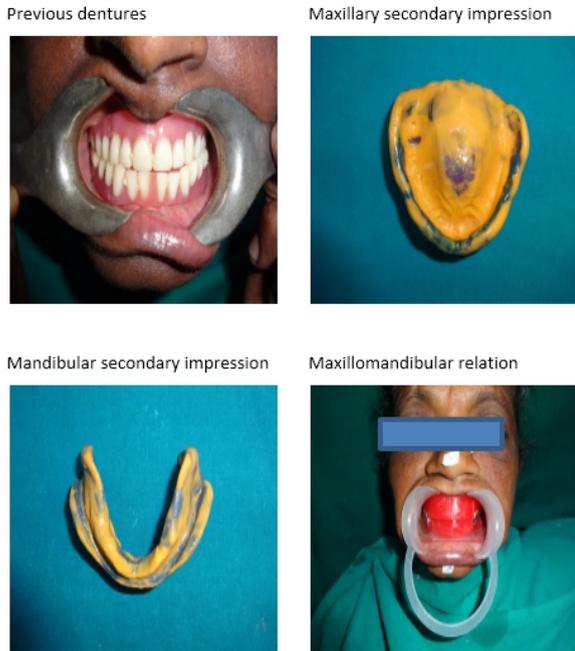


Figure 1 : Patient's previous dentures and clinical steps of secondary impressions and maxillomandibular relation.

During the laboratory procedure of denture packing, clear heat cure acrylic resin polymer and monomer (Trevelon by Dentsply) were mixed in two parts, to the lesser quantity a tinge of commercially available melanin pigment for denture base was added. This pigmented clear acrylic was placed around the neck of teeth in the flask on top of this the completely clear acrylic in dough stage was placed.(Figure 2). The flask was tightened using hydraulic bench press and cured using long curing cycle. After denture retrieval, it was trimmed, polished and finished.(Figure 3)



Figure 2: Laboratory steps



Figure 3: Photographs of finished complete dentures and of the patient before and after the treatment.

The dentures were delivered to the patient (Figure 3). The patient was happy and satisfied with the teeth arrangement, occlusion and the esthetics of the complete dentures. Patient was kept on a follow up protocol of one day, a week, a month and six months. Patient was satisfied with her new better and more natural looking dentures as it gave patient a more natural look.

The advantages of this technique are selective tinting of the cervical and attached gingiva, keeping the remaining denture base transparent. This transparent denture base reflects the real color of the edentulous ridges providing a more natural look to the dentures. This technique is very simple and does not require an elaborate armamentarium. This technique can be used for removable partial dentures and gum veneers too. It improved patient's confidence and provided psychological acceptance of complete dentures. This was evident on follow up of the patient.

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