Maximum aesthetics with minimal intervention

Many clinicians fail to distinguish between the esthetic and cosmetic desires of the patients. Proper understanding and analysis of psychology, health, function, and esthetic (PHFA) components of smile design are essential for satisfying such desires.

In my experience with esthetic dentistry practice, I have found that the cosmetic desires of most of the patients cannot be fulfilled by only applying the rules of natural smile esthetics because such desires are mostly at odds with their sex, race, and age (SRA) factors but are guided by the trends and culture. For example, an older patient seeking white (A1, B1 or bleached white shade) teeth and a youthful looking smile has a cosmetic desire that is contrary to the natural esthetics of the dentition according to his age. However a young patient, whose anterior teeth are darker (A3 or A3.5 shade) and attrited wants to restore the natural shade and shape should be regarded as an esthetic desire. In other words, the esthetic versus cosmetic desires of the patient can best be explained in the light of need versus want philosophies.

In my opinion, a patient’s desires for dental treatment that are not harmonious with SRA factors and that do not directly benefit the health or function of the oral tissues should be categorized as cosmetic desires. And, when such cosmetic desires are to be fulfilled, noninvasive to minimally invasive restorative techniques should be preferred.

The treatment modalities of any health care service are aimed basically at the establishment of health and conservation of the human body with its natural form, function, and esthetics. Esthetic dentistry should follow the concept and treatment protocol which can provide a simple, comprehensive, patient friendly and minimally invasive treatment approach with the emphasis on psychology, health, function, and esthetics of the patient. Therefore, to properly address these facts and to integrate the evidence-based, minimum intervention philosophy, minimally invasive cosmetic dentistry (MICD) protocol has been introduced in the field of esthetic dentistry. Such a holistic concept and basic treatment guideline would surely provide maximum esthetics with minimal intervention.

In the following cases, the patients’ desires were within the natural parameters in terms of SRA factors. Thus, we tried to mimic the natural esthetics using minimal invasive techniques.

Clinical Case 1

A 19-year-old female patient presented with discolored upper central and lateral incisors. The teeth were nonvital and were treated endodontically. The patient’s major concern was discoloration and uneven incisal edges of the upper anterior teeth. The patient was examined as per the Smile Design Wheel protocol [Figure 1] taking PHFA components into consideration.

Intraoral examination and dental history revealed bruxism habit. During patient counseling, various treatment options were discussed regarding her existing parafunctional habit and the esthetic problems. Initially, the case was treated with the selective walking bleach using PolaZing, i.e., 35% carbamide peroxide gel and home bleach using Nupro White Gold, i.e., 15% carbamide peroxide gel on teeth 12 and 11, followed by the recontouring of upper incisors using a Super-Snap black disk. A vacuum-formed night guard appliance was fabricated to prevent the loss of the tooth structure due to the bruxism habit [Figure 2A-I].

Clinical Case 2

A 26-year-old female patient was presented with discolored upper central and lateral incisors. The teeth were nonvital and were treated endodontically. The patient’s major concern was discoloration and uneven incisal edges of the upper anterior teeth. The patient was examined as per the Smile Design Wheel protocol [Figure 1] taking PHFA components into consideration.

Intraoral examination and dental history revealed bruxism habit. During patient counseling, various treatment options were discussed regarding her existing parafunctional habit and the esthetic problems. Initially, the case was treated with the selective walking bleach using PolaZing, i.e., 35% carbamide peroxide gel and home bleach using Nupro White Gold, i.e., 15% carbamide peroxide gel on teeth 12 and 11, followed by the recontouring of upper incisors using a Super-Snap black disk. A vacuum-formed night guard appliance was fabricated to prevent the loss of the tooth structure due to the bruxism habit [Figure 2A-I].

A 26-year-old female patient was presented with an unsatisfying existing smile. Her esthetic desires were less gum visibility and obvious upper incisor teeth during the smile. On examination, excessive maxillary gingiva with gummy smile, poorly restored midline diastema, and less prominent short upper central incisors were diagnosed. After thorough clinical evaluation and smile analysis, the patient was informed about her smile defect and advised possible treatment options. We decided to treat the case with minimally invasive techniques. The patient was treated with minor gum recontouring and direct bonding restorations using Beautifil II (Shofu Inc., Japan) with a universal incisor shade on maxillary central incisors. The outcome of the treatment was appreciated by the patient and her family [Figure 3A-I].
Figure 2: (A) Preoperative smile showing discolored teeth 12 and 11 with uneven incisal edges, (B) Preoperative full frontal view of the anterior teeth with lips retracted, (C) Close-up view of the upper anterior teeth, (D) Planning for selective home bleaching (note the spacer on the cast), (E) Bleaching tray placed in the upper arch, (F) Polazing (35% carbamide peroxide gel) used as the walking bleach, (G) Nuprowhite gold (15% carbamide peroxide gel) used for home bleach, (H) Teeth 12 and 11 7 days after bleaching, (I) Close-up view of teeth 11 and 12 after bleaching (note uneven incisal edges)

Figure 3: (A) Preoperative smile (note excessive maxillary gingiva, poorly restored midline diastema, and less prominent upper central incisors), (B) Preoperative frontal view of the anterior teeth with lips retracted, (C) Maxillary gingival recontouring, (D) Close-up of the upper central incisors after gingival recontouring and removal of previous composite restorations, (E) Application of acid etchant on tooth 11, (F) Application of bonding on tooth 11, (G) Flowable frame technique using Beautifil Flow (Shofu Inc.), (H) Lingual frame ready on tooth 11, (I): Final application of the enamel layer (Beautifil II, incisor shade, Shofu Inc.) and the restoration of tooth 21 completed in a similar manner
The given cases were managed with the MICD protocol. The patients were extremely satisfied with the treatment outcome. The minimally invasive cosmetic dental treatment provided to the patients is believed to promote health, function, and esthetics of the oral tissues and set positive impact on the psychology of the patient preserving the sound tooth structures while achieving the desired esthetic results. Furthermore, while increasing the patient confidence due to improved smile esthetics, the treatment promotes trust and enhances the professional image of the dental service.

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