Cosmetic periodontal surgery (Part 3): Zones of symmetry

By David L. Hoxeter, DMD, FACD, FICD, Editor in Chief

In Part 3 of this series on cosmetic periodontal surgery, I again emphasize the necessity of a complimentary healthy background of the periodontium — with the goal of enhancing the desired smile. In Parts 1 and 2 of this series, we described what a healthy periodontium entailed — a complementary, healthy surrounding tissue and color — and keratinized attached gingival, appearing as a whitish-pink color, separated at the mucogingival junction from the movable nonkeratinized alveolar mucosa of a reddish-blue color.

This article will concentrate on the symmetry of the periodontal background’s colors to afford the emphasis of the appearance of the teeth we wish to stand out to create that “smile.” In this article, the symmetry of attention of the keratinized attached gingiva is needed to achieve the background support of the final image — should be measured by both the vertical and horizontal dimensions, and is often overlooked.

Healthy keratinized attached gingival is desirable to surround the natural tooth to aid in the hygiene maintenance of the natural tooth or the endosseous implant. The patient can rub the keratinized tissue with several choices of instruments to remove the localized biofilms to preserve the health of the area.

Healthy gingival color can vary

Healthy keratinized attached gingival does not necessarily have to appear a pinkish-white color. It depends on the melanin pigmentation that the individual has in his or her epithelial basement membrane.

For example, people of Mediterranean origin appear to have areas of gingiva that vary with some darker and some lighter zones. It’s just like the way some people have facial skin with freckles and some don’t.

In normal epithelium, the color does not necessarily represent pathology, but rather healthy, normal epithelium. However, when we discuss esthetic dentistry today, the culture that we are dealing with plays a factor too. For example, centuries ago in Japan, a woman’s most desirable smile was one that showed black teeth.

In general today, we wish the appearance of bright-appearing teeth — framed by pinkish-white keratinized gingiva. The gingival should surround and protect our desired image, enhancing and attracting it. It certainly should not detract from our goal. Therefore the keratinized gingival should be the same homogeneous color. It should also be equal and symmetrical in vertical and lateral size. This will not detract, but aid in the maintenance and appearance of our smile.

Many techniques can be used

There are many cosmetic periodontal surgical techniques that can be used to

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achieve this symmetry and health. Several have been mentioned and described in this series. It must be stressed that it is the final goal that we should keep dominant in our sights — more so than any particular technique being used. The numerous techniques simply represent the various the paths to get there.

When we do not have enough keratinized gingiva, we can try to increase it. When we have too much (hyperplasia), we can remove it. If the color is not the desired color, we can change it. There are many techniques available to achieve the desired goal.

The question of how much vertical keratinized attached gingiva is necessary has been discussed for years. The amount, if adequate, should be symmetrical to allow emphasis of the smile of the teeth, color and form that we wish to emphasize. But too often overlooked is the horizontal aspect of the keratinized background. It should be symmetrical in width and height to provide a background that not only demonstrates health but enables our aesthetic goal to be achieved — and maintained.

This case presentation will emphasize and demonstrate a team effort, in which I use several cosmetic periodontal surgical techniques, the skills of a very talented restorative dentist to visualize and then attain the patient’s esthetic desires — as well as the patient herself, who is now able to maintain a healthy, attractive smile.

Case presentation

Mrs. S, a 62-year-old female, was referred to my office by an excellent cosmetic restorative dentist. (He has been awarded a fellowship in the International Academy for Dental Facial Esthetics.) Because of his exposure to different directives of treatment, including periodontal background options and the required cosmetic periodontal surgical techniques that would be necessary, he referred Mrs. S to my office.

Mrs. S is a positive, cooperative, strongly opinionated woman. At her initial visit, she presented (Fig. 1) with a myriad of desires, all boiling down to the fact that she desired a bright, glowing smile. She emphatically did not wish to treat to cover the crowns with their exposed dark appearing margins, as well as the darker coloring of her natural teeth.

Through consultation, Mrs. S and I formulated a treatment plan. Initial periodontal therapy consisted of nonsurgical therapy, including scaling, curettage and oral hygiene instruction. The next step was replacing the existing crown with physiological provisionals. Periodontal surgical techniques followed. Using the upper-right (UR) area as an example, we noted the uneven level of attached gingiva as well as periodontal pockets. I surgically manipulated the amount of keratinized gingiva and its placement vertically, in order to preserve the size of the zone of attached gingival needed to ensure harmonious blending with the rest of the tissue mesiodistally.

The crown lengthening was basic, but the size — vertically and horizontally of the desired colored attached gingiva — was paramount to the final result (Figs. 4 and 5).

Letting the healing take its normal course with patience was next. However, we reinforced the need for constant oral hygiene — with supervised check-ups.

When the proper healing was completed, the area was re-prepped and the provisionals were extended on the recently clinically exposed roots towards the gingival.

This technique was done on all of her posterior sections. It was paramount to emphasize the preservation of the vertical and horizontal size of the attached gingiva, not only to create a healthy background for the desired smile — but to ensure a symmetrical, cosmetically appealing background.

Teeth may not be even, but the illusion of a smooth, glowing smile can still be portrayed. Success depends on the team-work put into place by knowledgeable colleagues and the esthetic experiences they bring — blended with the patient’s cooperation.

The final restorations were completed with full-coverage crowns on the posterior sections. The materials were restored using porcelain laminates. The vertical dimension, enhanced by a smooth, linear appearance and aided by the symmetrical background achieved through cosmetic periodontal surgery, enables the smile to be maintained and turned this patient’s mouth into a glowing smile.

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