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Gingival Depigmentation: A Case Series

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Cosmetic dentistry is a fast growing field that reflects the high aesthetic expectations of the dental patient and the current trend in dental science. While cosmetic dentistry is usually centered on aesthetic restorative procedures, it may also involve the appearance of the gingiva. Dentists may see patients with concern regarding the melanin hyperpigmentation and color variations of their gingiva. Excessive gingival pigmentation is a major esthetic concern for many people. Though, it is not a medical problem, many people complain of dark gums as unesthetic. Esthetic gingival depigmentation can be performed in such patients with excellent results. A case is reported here in which a simple and effective surgical depigmentation was performed without the use of any sophisticated instruments or apparatus.

Key words: Gingival depigmentation, Melanin, Oral pigmentation.

Melanin is an endogenous pigment responsible for human tissue coloration of the skin, mucosa, hair, eyes and parts of the brain. In the skin, its function is protection from the harmful effects of UV radiation. Its purpose in oral tissues has not yet been determined. Oral pigmentation could be an esthetic issue for some patients, particularly when it is located on the anterior labial gingiva in individuals with a high smile line[1,2]. This article presents and describes several different approaches for the management of oral melanin pigmentation. Several treatment modalities has been suggested and presented. The present case reports, describes a simple and effective surgical depigmentation technique that does not require sophisticated instruments or apparatus yet yields esthetically acceptable results along with patient's satisfaction.

Case series

On intraoral examination, diffused blackish pigmentation of gingival was seen which was more prominent in the upper anterior region in both the cases. Clinically the gingival demonstrated signs of inflammation like bleeding on probing and color changes in both the patients. The unsightly gingival pigmentation was pointed out to the patients and they were made aware about the array of aesthetic treatment options available. The patients had also noticed the gingival pigmentation since a year and of their own accord opted to undergo the depigmentation procedure. Depigmentation procedures were planned after obtaining patients consent. The patients were given oral hygiene

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instructions and they underwent oral prophylaxis in phase I of periodontal therapy. Depigmentation procedure was done after inflammation resolved. The procedure was carried out from canine to canine region in the maxillary and mandibular anterior region for both cases using deepithelialization technique case1: using diamond bur and Case 2: using scalpel technique, after adequate local anesthesia.

Case 1

A male Patient aged 21yrs reported to our department with the complaint of unaesthetic gums. So we planned for surgical treatment for hyper pigmented gingival (Fig 1). Depigmentation was planned has a treatment modality. Technique used was surgical bur abrasion of gingiva. Depigmentation was done in upper and lower

Case 1

Fig. 1. Pre-operative

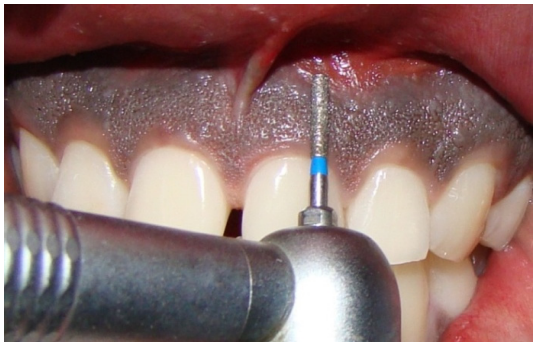

Fig. 2. Deepithilization using diamond bur

Fig. 3. Immediate Post-operative

Fig. 4. Post-operative after 4 weeks

anteriors (Fig 2). Using high speed rotary instrument, with NO.8 diamond bur gingival abrasion was done; all the melanin remnants of the epithelium were completely removed to prevent the possibility of recurrence the bur was kept moving so that bone exposure doesnt occurs. (Fig 3).

The surgical area was covered with a periodontal pack and postoperative instructions were given.

After 2 weeks, epithelization was completed except in the right mandibular area. The wound healing was almost completed, but slight redness still remained at 4 weeks after surgery. However, the patient was satisfied with the significant improvement in color. Gingival recession and loss of papilla were not observed at 4 weeks after surgery (Fig. 4).

Case 2

A 23yrs old female patient reported

Case 2

Fig. 5. Pre-operative

Fig. 6. Deepithilization using Scalpel blade

Fig. 7. Immediate Post-operative

Fig. 8. Post-operative after 4 weeks

to the department with the complaint of hyper pigmentation (Fig 5) a surgical technique was planned, a split thickness flap is elevated, with the help of blade no. 15 with the Bard Parker handle to scrape the epithelium. Bleeding was controlled using pressure pack with sterile gauze. Care was taken that excessive tissue was not removed thereby avoiding any bone exposure (Fig 6). The surgical area was covered with a periodontal pack and postoperative instructions were given.

After 2 weeks, re-epithelization was almost complete but had epithelium had not re-

Case 3

Fig. 9. Pre-Operative

Fig. 10. Immediate post operative

Fig. 11. Postoperative after 4 weeks

covered its thickness yet (Fig. 7). After 4 weeks, the gingiva showed a normal appearance with pink color and keratinization. The patient was satisfied with the significant improvement in color. Tissue deformities, e.g., gingival recession and loss of papilla, were not observed after 4 weeks because the papillary edges and free gingival margins were left untreated. However, some pigments remained on the marginal gingiva and papillary area (Fig. 8).

Case 3

A male Patient aged 25yrs reported to our department with the complaint of pigmented gums. So we planned for surgical treatment for hyper pigmented gingiva (Fig 9). Technique used was surgical scalpel removal of gingival epithelium. Depigmentation was done in upper and lower anteriors (Fig 10). The surgical area was covered with a periodontal pack and postoperative instructions were given.

The wound healing was almost completed, at 4 weeks after surgery.

DISCUSSION

Gingival melanin pigmentation causes esthetic concerns, and cosmetic therapy is becoming important for patients suffering from this problem. There are increasing demands for cosmetic therapy for gingival melanin pigmentation. Consequently, various methods, including gingivectomy, gingivectomy with a free gingival autografting , electrosurgery, cryosurgery[3], chemotherapy with 90% phenol and abrasion with a diamond bur , have been used with different degrees of success . Gingivectomy results in alveolar bone loss, delayed healing by secondary intention, and excessive pain. A free gingival graft usually requires an additional surgical site and a careful concern for color matching. Furthermore, the presence of a demarcated line that is commonly visible around the graft at the recipient site may elicit an esthetic problem itself. Cryosurgery requires skillful management of complicated techniques and instruments. Chemical agents, such as 90% phenol and 95% alcohol, have been used in combination; however, these chemical agents are quite harmful to the oral soft tissues[4-6]. Recently, a laser has been used to ablate cells containing and producing the melanin pigment. When the deepithelization is performed with a high speed diamond procedure, it is recommended to use the largest size of diamond bur. Small burs cannot make smooth surfaces easily and have a tendency to make small pits in the surgical sites which require further correction. All pigmented gingival areas should be removed completely to prevent possible repigmentation. The procedure done in these cases is relatively simple and versatile; moreover, it requires a minimum of time and effort. If repigmentation occurs, the procedure can be done repeatedly in the same areas without clinical limitations or causing any permanent damage[7-10]. In summary, both the scalpel technique and the high speed rotary instrument seem to be effective in the esthetic treatment of gingival melanin hyper pigmentation.

CONCLUSION

In this present world, it's of prime important for aesthetically appealing gingiva for a pleasant smile. The techniques used are simple, economical, most important patient comfortness. The procedures done for these cases has predictable outcome, with uneventful healing and plesant appearing pink gingiva.

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