



ISSN 2674-8169

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PUBLICATION DATA

Article received on May 01, revised on May 10, accepted for publication on May 15 and published on May 29

DOI: <https://doi.org/10.36557/2674-8169.2020v2n5p69-77>

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KEY WORDS

Pigmentation. Dermabrasion. Periodontics.

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CASE REPORT

Gingival peeling and periodontal aesthetics: a case report.

Melanic pigmentations (MP) are dark stains located on the masticatory mucosa. These pigmentations are consequence of the excess of melanin production by the melanocytes located in the basal layer of the epithelium, between epithelial cells and connective tissue cells. The MP of the periodontium are the results of the melanin granules transfer from the melanocytes to the keratinocytes, in a process called epidermal melanin. This study aims to report a clinical case of dermabrasion for treatment of gingival melanin hyperpigmentation of a female patient, 21 years of age, non smoker, under orthodontic treatment and without systemic alterations. This patient attended the Clinic of Specialization in Periodontics of the Brazilian Association of Dentistry (ABO) with the aesthetic of her smile as the chief complain, due to the excess of melanin on the gingival tissues, in the anterior superior region. The epithelial dermabrasion technique, with hand tools, promoted aesthetic results on the melanic depigmentation.



Peeling gengivale a estética periodontal: relato de caso

Pigmentações Melânicas (PM) são manchas escuras localizadas na mucosa mastigatória. Essas pigmentações são consequência da produção demasiada de melanina pelos melanócitos, localizados na camada basal do epitélio, em meio às células epiteliais e células do tecido conjuntivo. As PM do periodonto são resultados da transferência dos grânulos de melanina dos melanócitos para os queratinócitos, um processo denominado de melanina epidérmica. O presente estudo tem como objetivo apresentar um caso clínico de dermoabrasão para tratamento de hiperpigmentação melânica gengival de uma paciente do sexo feminino, 21 anos de idade, não fumante, em tratamento ortodôntico e sem alterações sistêmicas. Essa paciente compareceu à clínica de Especialização em Periodontia da Associação Brasileira de Odontologia (ABO) com a queixa principal de comprometimento estético do sorriso por conta do excesso de melanina nos tecidos gengivais, na região anterossuperior. A técnica de dermoabrasão epitelial, com instrumentos manuais, promoveu resultados estéticos na despigmentação melânica.

Palavras-chave: Pigmentação. Dermoabrasão. Periodontia



INTRODUCTION

The color of the gums is determined by the thickness of the epithelium, the amount of keratinized tissue, the degree of blood supply, with the presence of hemoglobin, and the degree of deposition of melanin. Melanin is an endogenous, granular pigment that gives color to the skin and mucosa. The main function of melanin pigmentation is photoprotection against ultraviolet rays [1,2].

Melanin pigmentation (PM) are dark spots located on the masticatory mucosa, as a consequence of too much melanin production by the melanocytes, located in the basal layer of the epithelium and in the middle of the epithelial cells. The presence of melanin in the gingival tissue is found in certain ethnic groups, being called racial melanosis [3,4].

The PM of the protection and support periodontium are the result of the transfer of melanin granules from melanocytes to keratinocytes, and this process is called epidermal melanin. Hyperpigmentation can have a physiological or pathological etiology, being caused by local or systemic factors such as: genetics, trauma, fungal infections, systemic disorders, syndromes, drugs and smoking [5,6,7].

The aesthetic issue is mainly what moves the patient in search of PM treatment. Various clinical procedures are applied to remove this gingival hyperpigmentation, among them are cryotherapy, chemical agents, autogenous gingival grafts, wear with rotating instruments, gingivoplasty with manual instruments and high-powered laser. And even with the use of an effective treatment, due to etiological factors such as genetics, the patient should be advised of the incidence of repigmentation [5,6,7]. The objective of this work was to present a clinical case of treatment for gingival melanin hyperpigmentation.

CASE REPORT

Female patient, 21 years old, non-smoker, undergoing orthodontic treatment and without systemic changes, attended the Periodontics Specialization Clinic of the Brazilian Dentistry Association (ABO) with the main complaint of aesthetic impairment of the smile due to excess of melanin in the gingival tissues in the anterosuperior region (Figure 1).



Figure 1- View of the clinical case. Note the extensive gingival band inserted with melanin pigmentation associated with gingival hyperplasia.

During the anamnesis and clinical and periodontal exams, it was found that the patient had difficulty cleaning due to gingival hyperplasia, a factor that could contribute to the development of gingivitis. After anamnesis and clinical examinations, the patient was instructed to perform the gingivectomy and gingivoplasty procedures associated with dermabrasion by hand instruments, which the patient agreed to perform.

Initial preparation was performed with Gracey curettes for supra and subgingival scraping. Following the initial preparation, incisions with the external bevel with a 15c blade (Solidor, Lamedid, Osasco, SP, BR) were performed at the base of the hyperplasia tissue (Figure 2). Following gingivectomy, it was observed that the labial frenum would have its insertion high, so a frenectomy was performed together to release the muscle bridle (Figure 3).



Figure 2 - Removal of a collar through an external bevel incision.



Figure 3 - Appearance after frenectomy and suture.



Figure 4 - Gingival peeling with the aid of the Kirkland gingivotome.



Figure 5 - Front view of the 1-year postoperative period.

After frenectomy, depigmentation was performed with Kirkland's gingivotome (Quinelato, Schobell, Rio Claro, SP, BR) for better control of gingival tissue de-epithelialization (Figure 4). After the end of the surgical procedure, it was decided not to place the surgical cement due to the large accumulation of bacterial plaque caused by it, and the use of surgical cement does not directly influence tissue healing.

The patient received guidance on postoperative care, such as using an ice pack, brushing the area and using ibuprofen with a 600 mg dose for analgesic effect. After the healing period, the patient returned to the ABO dental clinic. In the first year of follow-up, the stability of the epithelialization and improvement of the patient's aesthetics was observed (Figure 5).

DISCUSSION

The aesthetics of the smile is a subjective concept, and the coloring of the gingival tissue plays a fundamental role. Melanic hyperpigmentation of the gingival tissue presents itself as a recurrent clinical condition and among the various techniques for gingival depigmentation found in the literature, the use of epithelial dermabrasion has certain advantages, as demonstrated in the case above. When analyzing manual depigmentation, it appears that the technique is practical, safe, inexpensive and easily reproduced [8,9,10].

The other techniques recommended in the literature, despite having advantages, have shown to have several limitations, such as the use of chemical agents that can damage adjacent oral soft tissues. When comparing this technique with the results of this article, there is a rapid healing with an effective result, without prejudice to the adjacent soft tissues.

Recently, the use of Nd: YAG and Erbium: YAG lasers has been documented for the treatment of gingival PM, however, despite this technique showing satisfactory results, it is necessary to acquire the laser, thus increasing the cost of treatment and there are need for training by the dentist [10,11,12].

Another form of treatment is cryotherapy, which has been widely used to eliminate the need for local anesthesia and sutures, being comfortable for the patient, however the technician responsible must have a specific course to use the techniques and in addition, the purchase of the equipment presents a high cost.

Another technique mentioned in the literature is the use of free gingival graft, but using this technique causes unsatisfactory aesthetic results due to the difference in gingival staining, the presence of two surgical wounds and the possibility of repigmentation of the autogenous graft [12,13,14].

When analyzing dermabrasion using manual instruments, one must consider that the surgeon needs to be careful during the depigmentation of the gingival tissue, in order to avoid fenestrations and iatrogenies that may result in gingival recession, causing a serious aesthetic compromise. One of the disadvantages of the technique used by the authors is the difficulty in controlling hemostasis, however this must be achieved with local compression with gauze



moistened with refrigerated saline and the patient must be instructed to use liquid and / or pasty, cold food. in the first 24 postoperative hours [12,13,14].

Regardless of the various techniques used, the results demonstrate that in all of them there is the possibility of repigmentation, with variance of time periods, always depending on the amount of melanin present, depending on the patient's own genetics, as well as the incorrect applicability of the techniques. Repigmentation can be gradual, starting with the gingival papillae where the highest concentration of melanocytes is found [15,16,17].

In the present case report, small areas of repigmentation can be observed with 1 year of follow-up. The probability of recurrence must be very well emphasized to the patient. If necessary, there is the possibility of repeating the surgical procedure in the long term, however the patient was satisfied with the result despite the fact that after 1 years of follow-up she has already shown growth of some PM islets between the papillae [15,16,17].

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CONCLUSIONS

The manual epithelial dermabrasion technique enabled aesthetic results in melanic depigmentation. During the follow-up of the reported case, the return of some areas of repigmentation was observed, which did not bother the patient and did not interfere with the smile aesthetic.

INTEREST CONFLICTS

The authors declare no conflicts of interest

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