Case Report

Ulutas Med J 2015;1(1):7-9
DOI: 10.5455/umj.2015.1.2
ISSN: 2149-0430

Gingival Depigmentation: Esthetic Enhancement Made Simple and Efficient

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Background: Dental esthetic problems in adolescence have significant impact on the psychologic health and well being during this important period of development. These dental problems not only hinder the normal oral functioning of these children, but also have a considerable psychological impact. Dental problems in anterior region may be related to abnormality in shape, size, color and structure of the tooth, pigmentation of the gingiva, traumatic injuries, orthodontic problems. One of the frequently encountered dental problems is gingival pigmentation, which is seen as a purplish staining or as brown or light brown patches.

Case: The aim of the report is to describe the management of gingival pigmentation by means of electrocautery as a feasible esthetic alternative in an adolescent girl.

Keywords: Gingival pigmentation, melanin pigmentation, adolescent dental esthetic

Introduction

Dental esthetic problems in adolescence have significant impact on the psychologic health and well being during this critical period of development. These dental problems not only hinder the normal oral functioning of these children but also have a significant psychological impact. It also affects the interaction of these children with their peers. Dental problems in anterior region may be related to abnormality in shape, size, color and structure of the tooth, pigmentation of the gingiva, traumatic injuries, orthodontic problems.

One of the common dental problems reported is the pigmentation of the gingiva which is seen as a diffuse purplish discoloration or as irregularly shaped brown or light brown patches (1). It is found in all races and at any age without any gender predilection (2, 3). This discoloration of the gingiva may occur due to a variety of conditions. These may range from physiologic reasons (e.g. *racial pigmentation*) to manifestations of systemic illnesses (e.g. *Addison's disease*) to malignant neoplasm (e.g. *melanoma and Kaposi sarcoma*)(4). The physiological gingival melanin hyperpigmentation usually does not present as a medical problem, but the patient may complain that their 'black gums' are unaesthetic. This problem is aggravated in the patients with a 'gummy smile' or an excessive gingival display while they smile or talk. For depigmentation of gingiva different treatment modalities are reported which includes bur abrasion, scraping, partial thickness flap, cryotherapy, electro-cauterization and laser-aided depigmentation. The aim of this case report is to describe the management of gingival pigmentation using electro cautery as a viable esthetic option in an adolescent girl. The aim of the report is to describe the management of gingival pigmentation by means of electrocautery as a feasible esthetic alternative in an adolescent girl.

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Received: Jan 14, 2015; **Accepted**: Feb. 22, 2015
Published: March 22, 2015

Case report

A 15 year old adolescent girl reported with her parents, to the department of Pedodontics and Preventive Dentistry with the chief complaint of brown-black pigmentation on her gingiva and resultant embarrassment due to this gingival discoloration. The patient's history revealed that the blackish discoloration of gingiva was present since birth suggestive of physiologic melanin pigmentation (*Fig. 1*). Medical history of the case was noncontributory.

By intraoral examination, a melanin pigmentation was seen on the facial gingiva extending from maxillary right first premolar to left premolar. A treatment plan was drawn for the patient involving surgical depigmentation of anterior maxillary gingiva under local anesthesia.

Figure 1: Preoperative view showing maxillary facial gingival melanin pigmentation.

Informed written consent was obtained from the patient's parents prior to the procedure. Oral prophylaxis was carried out and local anesthetic administered at the beginning of the depigmentation procedure. The pigmented gingival epithelium from the distal surface of right maxillary first premolar to the distal surface of the left first premolar was excised using an electrocautery loop electrode. Any remnants of the pigmented areas that were left were removed (*Fig. 2 and 3*).

Postoperative instructions were applied. Analgesic medication was prescribed for the management of postoperative pain and the patient was instructed to use a chlorhexidine mouth and continue regular oral hygiene practices thereafter. After 1 week the surgical area was examined. The healing was uneventful without any post-surgical complications. The gingiva appeared pink, healthy, and firm giving a normal appearance with improved esthetics (*Fig. 4*).

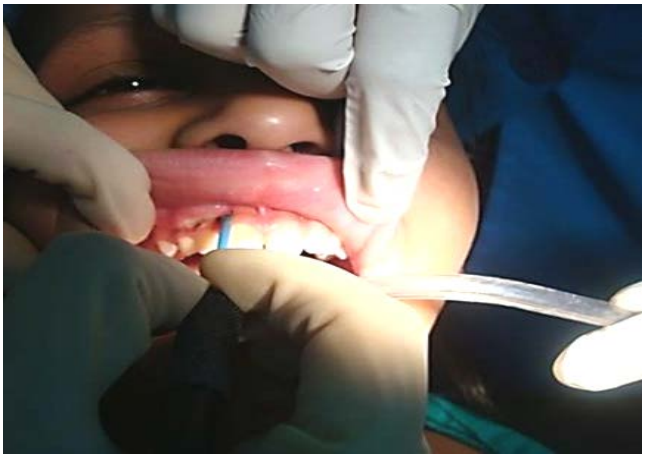

Figure 2: Intraoperative view of depigmentation procedure using electrocautery.

Figure 3: Immediate postop. view of maxillary facial gingiva.

Discussion

There are wide variations in gingival color in normal healthy persons. The degree of vascularization, the thickness of the keratinized layer, and the amount of the pigment containing cells will determine the color of the gingiva (5). There are few studies published to date regarding clinical methods of treatment of pigmented gingiva. The techniques that were tried in the past to treat gingival pigmentation include chemical cauterization, gingivectomy, scalpel scraping procedure, and abrasion of gingiva. The recent techniques of gingival depigmentation in practice are cryotherapy free gingival autograft and laser therapy and all these methods have achieved satisfactory results (6).

Figure 4: 1 week after postoperative intraoral view of maxillary gingival depigmentation.

Oringer (1975) mentioned electrocautery as a superior method of depigmentation over scalpel on the basis of the 'exploding cell theory' which states that molecular disintegration of melanin pigments occur in the basal and suprabasal layer of the operated and surrounding area due to electoral energy generated during the electrocautery procedure (7). Although healing is uneventful it has a disadvantage of undesired tissue destruction on repeated and continuous application.

Conclusion

The depigmentation technique induces minimal trauma with reduced surgical intervention is an efficient treatment option to improve the facial gingival esthetics of an adolescent at a sensitive period of life.

Authors Contribution

All the authors have equally contributed in the preparation of the manuscript. There is no conflict of interest or not any sources of support.

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DOI: **http://dx.doi.org/10.5455/umj.2015.1.2**
***Cite the article as*:** Adlakha et al. Gingival Depigmentation: Esthetic Enhancement Made Simple and Efficient. Ulutas Med J 2015;1(1):7-9.