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GINGIVAL DEPIGMENTATION: AN ESTHETIC SURGICAL APPROACH

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ABSTRACT

Gingival pigmentation due to melanin is caused by deposition of melanin pigments within the gingival epithelium. Excessive gingival pigmentation is a major esthetic problems for many people because they causes an unaesthetic dark gums. Although clinical melanin pigmentation does not present a medical problem, demand for esthetic de-pigmentation therapy is commonly made by people for improved their esthetics. This case report presents a surgical technique of de-epithelization which has been successfully used to treat gingival pigmentation.

INTRODUCTION

Melanin is non-hemoglobin derived brown pigment which is produced by melanocytes cells (Dummett, 1960). Degree of pigmentation varies from one person to another which is mainly depends on melanoblastic activity. Pigmentation primarily depends on depth of epithelization, degree of keratinization, vascularity of the area and degree of melanogensis. Melanin hyper pigmentation of gingiva occurs in all races (Cicek and Ertas, 2003). Various esthetic de-pigmentation techniques have been used which give similar results includes abrasion with diamond burs, cryosurgery, electro surgery, gingivectomy with free gingival auto graft and various type of laser have been used for esthetic gingival de-pigmentation. In the process of de-pigmentation gingival epithelium along with a layer of underlying connective tissue are surgically remove. After removal of gingival epithelium denuded connective tissue are heal by secondary intention.

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Case history

A 18 year old and another 22 year old male patient visited to the department of Periodontics with chief complained of blackish gums since last 1-2 years. On intra oral examination, diffuse blackish pigmentation of gingiva was seen in both the cases. Depigmentation procedure was planned after taken consent from patient. Patient's oral prophylaxis was done and oral hygine instruction given. The procedure was carried out from canine to canine in maxillary anterior region for both the cases after given adequate local anesthesia.

Upper most layer of gingiva was carefully scraped by using 15 number of bade which was parallel to long axis of the teeth. Surgical areas were covered with periodontal pack and post operative instructions were given. Patient's prescribed antibiotics and analgesic. After one week healing was uneventful and satisfactory. After one month recalled visit gingiva appeared pink and healthy with firm consistency and completely devoid of inflammation and any type of recurrent pigmentation.

Pre operative view of case 1

Post operative view of case 1 after one month

Post operative view of case 1 after three months

Pre operative view of case 2

Post operative view of case 2 after three months

DISCUSSION

Clinically melanin pigmentation of the gingiva does not present any medical problems it can be an esthetic concern for the patient (Deepak et al., 2005). Various de-pigmentation technique have been used such as scalpel, electrosurgry, cryosurgery, used of chemical agents (phenol, alcohol) and diamond burs, lasers according to patient comfort and efficacy of procedure. Each technique has its own advantages and disadvantages (Farnoosh, 1990).Scalpel technique is most economical and relatively simple as compared to other techniques, but it causes unpleasant bleeding during and after surgery (Gnanasekhar and Duwairi, 1998). Electrosurgry take laser time and causes minimum bleeding, but use on prolonged time induces heat accumulation and causes undesired tissue destruction (Hirschfeld and Hirschfeld, 1951). Cryosurgery causes prolonged swelling because during surgery depth of penetration cannot be controlled and result of which more soft tissue destruction (Bishop , 1994).The mechanism of de-pigmentation is not understood, but according to migratory theory, active melanocytes from the adjacent pigmented tissues migrate to the treated areas, causing re-pigmentation. According to Oringer's (1925) exploding cell theory, the electrical energy causes to molecular disintegration of molecular cells present in basal and suprabasal cell layers of operated and surrounding sites.

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