



PINKIFICATION OF LIPS USING DIODE LASER- A BOON FOR LOPSIDED LIPS

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ABSTRACT

Background: The trends in the treatment of orodental problems have been changed over the time. They state face is the index of mind and smile makes a mark. In to days time every individual is fixated about a perfect smile and lips redefine your smile so depigmentation of lips have been a arising thing now. There are fundamentally two lines of treatment with regards to hyperpigmented lips, one is evacuation of shades as for this situation report, the melanin was taken out by photothermal ablation of melanocytes causing the pigmentation and the other line of treatment incorporates lasting lip shading where in the shading colors are inked on the lips, which fundamentally is tied in with making a concealing impact.

Aim: The aim of this case report was to perform depigmentation of lopsided lips using diode laser.

Materials and methods: Dental surgical diode laser 980 nm (DENLASE 980nm/7) was used, a 400 µm 7 mm length surgical disposable tip was used. The power was set at 1W and continuous mode. Depigmentation of used was performed using diode laser

Conclusion: Pinkification of lopsided lips using 980nm diode laser gave excellent esthetic results.

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INTRODUCTION

Human face is been isolated into thirds, where lips constitute the key tasteful element in the lower third.^[1] Fuller and pink lips are for the most part, viewed as more appealing than the standard. Peck and peck in their article on facial aesthetics have portrayed that lips have consistently been the focal point of fascination of facial highlights, they contemplated the historical backdrop of Greek figures that characterized beauty. Till date the standards of portrayal of magnificence have been continued as far as shading and complexion of lips. This fact is presently causing a distinct fascination in every teenager for lip augmentation and depigmentation techniques. Depigmentation of lips should be possible by two strategies. One is by concealing the melanin using a shading color and the other by expulsion of melanin, which is generally achieved by the utilization of laser in cosmetic industry. Low level laser treatment is utilized for depigmentation of lips which generally needs around 4 to 5 sittings throughout a time frame contingent upon the melanin content. Lasers are no longer an exquisite but now have rather become a essential in dental office. In the field of periodontology, lasers have been used for bacterial reduction, laser assisted periodontal surgery, crown lengthening, frenectomy, gingivectomy, operculectomy, lasers have also been used for root conditioning, and literature states they have been used for treating peri implantitis and laser assisted bone regeneration.^{[2][3][4][5][6][7][8][9][10]}

Despite the fact that we have bountiful writing on the utilization of lasers in different fields of dentistry there is exceptionally minimal data on the utilization of laser for depigmentation of lips. This article depicts the use of an 980nm diode laser (Denlase Clean cut) for lip depigmentation.

Vachiramon and McMichael has enlisted various causes for hyperpigmented lesions. It may be physiologic pigmentation, Inflammatory dermatoses and post-inflammatory hyperpigmentation, (Lichen planus, Lupus erythematosus, Pemphigus, Pemphigoid). It can be Fixed medication emissions, Pigmented contact cheilitis, or Benign pigmented lesions like Ephelides, Labial melanotic macule, Acquired dermal melanocytosis, Melanoacanthoma, Lentigines, Nevus .it could also be Malignant pigmented sores (Malignant melanoma, Pigmented Bowen's disease, Pigmented squamous cell carcinoma) or could be Lentiginosis disorders (Peutz-Jeghers condition, Bandler disorder, LEOPARD disorder, Carney complex, Centrofacial lentiginosis and Inherited designed lentiginosis). Different causes incorporate Endocrine and metabolic issues like Addison's infection, Cushing's sickness, Nelson's condition, Acromegaly, Hyperthyroidism, Hemochromatosis. Medications and synthetic compounds can incite lip hyperpigmentation like heavy metal poisoning and smoking . In addition to these, HIV and other non-melanotic conditions (Amalgam tattoo, Central cyanosis, Venous lake, Cavernous hemangioma, Port wine stain, Kaposi's sarcoma, Hematoma, Hemorrhage) also bring about lip pigmentation.^[11]

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Laser Equipment

In the present case a dental surgical diode laser 980 nm (DENLASE 980nm/7) with a 400 µm 7 mm length surgical disposable tip was used (Figure 1 and Figure 2).



Figure 1 Dental surgical diode laser 980 nm (DENLASE 980nm/7)



Figure 2 Power set at 1W and continuous mode

The power was set at 1W and continuous mode. Laser safety was regulated according to the ANSI Z136 (American National Standard Institute) ANSI stands as regulatory measures for OSHA as well. Till date the laser hazards has been classified into 6 classes (1, 1M, 2M, 3B, 3R, 4).^[12] The diode laser used here is a Class 4 laser. These class 4 lasers have an output greater than 0.5 W. The wavelength of the diode laser ranges from 532- 1500nm. This frequency is named as retinal risk district. Exposure to laser radiation is one of the major concern when we use this equipment These lasers are dangerous as they diffuse reflective radiation which can cause injury. All the safety measures were followed such as wearing protective goggles and keeping away all reflective mirror surfaces from the operating site. Gauze was used to remove the charred tissue, the surgical space was devoid of inflammable liquids and materials as laser can bring about fire hazard.

CASE REPORT

Case determination was done dependent on the ordinary skin pigmentation to reject the pathologies related with melanin discharge. Patient was clarified with respect to the strategy and an informed consent was obtained. Patient was obviously

clarified about the result of the strategy so no unrealistic expectations were described. Patient had no hematological issues and any remaining differential finding were precluded for pigmented lips and was expressed as melanin hyperpigmentation. Patients principle concern was lopsided tone of her lips and the patients expectation were to have droning lips. A 22 year old female patient visited the office with the problem of hyperpigmented and lopsided conditioned lips (Fig 3).

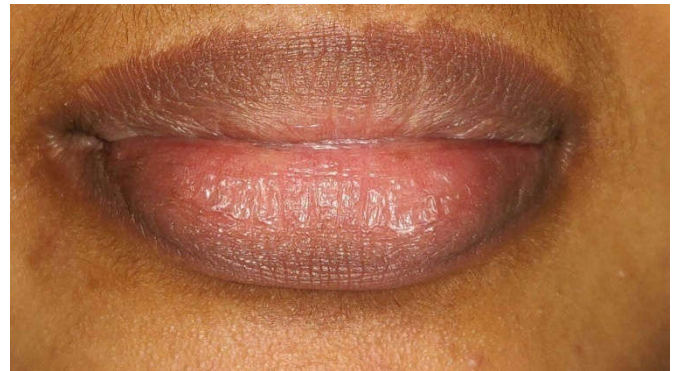


Figure 3 Pre operative picture showing hyperpigmented & lopsided conditioned lips

An complete history was taken and fundamental contributing elements were precluded. Hematological examinations were done. The patient was clarified with respect to the treatment, the break appearance of lips and conceivable result and an informed consent was obtained. A topical anesthetic spray (10% lidocaine) and anesthetic gel 2% lidocaine in a aqueous base (Fig 4) and local infiltration of LA solution (using 2% lignocaine hydrochloride with adrenaline in 1:80000 concentrations (Lignox 2% -A) was given.

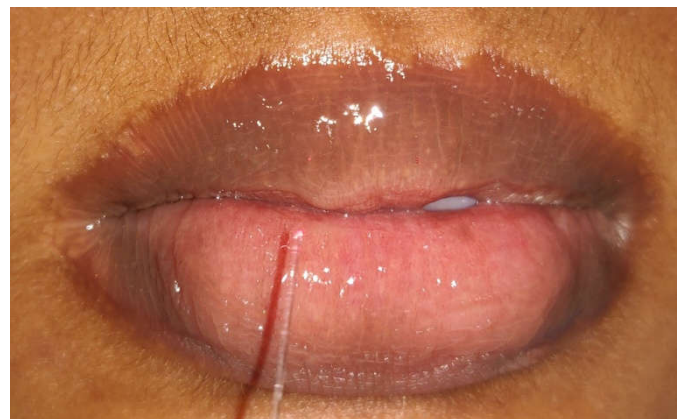


Figure 4 Application of local anesthesia

Dental surgical diode laser 980 nm (DENLASE 980nm/7) , a 400 µm 7 mm length surgical disposable tip was used. The power was set at 1W and continuous mode. Depigmentation was done using laser (Fig 5). Care was taken to incorporate all the regions that had melanin pigmentation. The commissural region was treated by requesting that the patient open mouth wide as though to apply lipstick. Exactly all the influenced territory was photoablated by laser. The procedure started with the outer border of the lips and then it was used as a reference marking and the complete ablation was done. Upper lip was firstly done followed by the lower lip. After the completion of treatment patient was approached to saturate the lips ceaselessly utilizing Vaseline and aloe vera gel. Patient was persuaded to utilize sunscreen and dodge sun exposure as it would prompt melanin differentiation. Patient was advised to consume green verdant vegetables and citrus organic products,

food sources with high Vitamin C substance as they add to brightening.



Figure 5 Depigmentation was done using laser



Figure 6 One day postoperative view showing a crusted appearance

Patient was persistently checked, following 24 hours of treatment. There was development of white chips over the lips giving crusted appearance(Fig 6), This crusted appearance lasted for around 7 days after which there was shedding of this layer and a pinkish shade of lips was seen under (Fig 7). Few regions where laser exposure was more, those zones showed up a greater amount of rosy than a pinkish tone. At 1 month, lips were pinkish but consistency was as yet not seen(Fig 8). Following a half year of this methodology, there was finished monotonocity in the shade of the lips and the case was named fruitful as the patients wanted outcomes were acquired (Fig 9). There was no requirement for the second sitting of laser treatment as the ideal result were obtained about in the underlying sitting. The pain was surveyed utilizing the VAS scale. The patient was additionally given a portion of antimicrobials to avoid infection.



Figure 7 One week postoperative showing pinkish lips

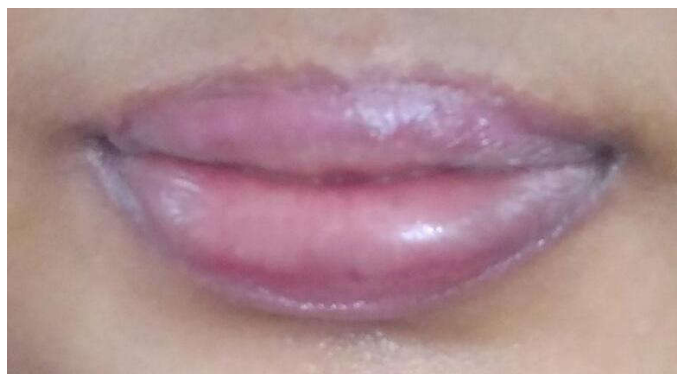


Figure 8 One month follow up showing pinkish non uniform consistency lips



Figure 9 Six month follow up showing monotone lips

DISCUSSION

Esthetic dentistry and cosmetic dentistry is an emerging field. This is a direct result of change in perspective in the kind of patients we have been treating, the sort of patients what we treat currently are mostly worried about esthetics, essentially worried about arriving at the standards of magnificence characterized, one illustration of this is that prior patients use to request gold crown as they were viewed as a characteristic of abundance but today patients settle on things that seem normal. Similarly amalgam are obsolete now regardless of whether it has higher compressive strength and long haul steadiness however because of esthetic concerns composite rebuilding efforts win. Microscopically the skin over lips is exceptionally slender when contrasted with that of face as the lip skin has around three to five layers though the facial skin has around 16 layers which requires multiple times more consideration and worry than facial skin Alongside melanin pigmentation there are different elements that add to the shade of the lips, for example, vascularity, thickness of the epithelium and level of keratinization . Individuals with lighter skin tone have not many melanocytes in the lip also which causes transparency for the hidden veins and subsequently giving a ruddy to pink tone on opposite patients with hazier skin tone have more melanin and no transparency adds to more obscure showing up lips. Lasers have been widely used in the field of periodontology “Laser” acronym stands for Light Amplification by Stimulated Emission of Radiation. Laser is essentially a radiance of a solitary frequency going through a collimated tube discharging a concentrated wellspring of energy, certain components from the occasional framework are utilized to create lasers, for example, diodes, atoms, particles, electrons and synthetic compounds. In 1960, the main laser used a photon in a ruby medium which was created by the physicist Theodore H Maiman afterward the theoretical work of Quantum mechanics was done by Einstein,

Basov, Prokhorov and Townes.^{[13][14]} Lasers when equated with scalpel exhibits numerous advantages. The major advantage is blood coagulation embalming a clear working field.^[15] Lasers have been in cosmetic field for a while, commonly used for laser hair removal, carbon blasting depigmentation, scar revision, removal of tattoos etc, but very few literature is present on depigmentation of lips using diode laser. Kennet Luk described the use of pulse diode laser for depigmentation of gingivae and lip where in 5 year follow up was done and the results were very promising. Vasanop Vachiramon *et al.*^[12] in their review also stated the use of laser for evaluation and treatment of pigmented lips. The objective of this case report was to depict the most commonly used diode laser for treatment of hyperpigmented lips. This case was followed up for a period of 6 months which showed very promising and esthetic pleasing results.

CONCLUSION

Hyperpigmented lips is a generally noticed clinical discovering, it very well may be physiological or be related with different conditions and infections, so assessment and treatment of these are of most extreme significance, a minor methodology, for example, pinkification of lips utilizing diode laser could achieve a significant distinction in an individual life. Lasers have no obvious results when compared to electrocautery or conventional surgical tool strategies. They have opened a variety of treatment alternatives for stylish redresses and cosmetology.

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