

Smaller teeth correction with lasers for aesthetic reason: A case report

Shabina Aysha Begum^{1*}, Sunanda Paul², Smitha Sharon³, Jeevitha Muruges⁴, Faiz Imran⁵

^{1,2}Senior Lecture, ^{3,4,5}Reader, ¹Dept. of prosthodontics, ²Dept. of orthodontics, ³Dept. of prosthodontics, ⁴Dept of Oral Medicine and Radiology, ⁵Dept of periodontics, Bangalore

***Corresponding Author:**

Email: drshabinaaysha@gmail.com

Abstract

Smile is the curve that straightens everything. Having a beautiful smile involves many factors such as size, shape & position of teeth, as well as their exposure during smiling. The gingiva also plays a role in smile aesthetics, as excess exposure during smiling (gummy smile) can be a problem.

In today's world soft tissue dental laser has become very popular in the treatment of this excessive gingiva to correct Gummy Smile.

Keywords: Gummy Smile, Dental Laser, Gingival Zenith.

Introduction

In this day and age, a good looking and pleasing appearance is very important. Smile plays a very important role in the aesthetic appearance of the individual. When more than 3mm of the gingiva is exposed during smiling, it looks unaesthetic, and is termed gummy smile.

This case report is about a 30year old female patient, who visited Partha Dental Clinic, Jayanagar, Bengaluru, with the chief complaint of small sized teeth. On clinical examination, excessive gingival coverage over the crowns of maxillary anterior teeth was seen.

Pre Procedural Assessment

1. Detailed case history
2. Chief complaint of the patient
3. Medical history
4. Habits
5. Facial analysis
6. Smile analysis
7. Hard Tissue Examination- Tooth size assessment
8. Soft Tissue Examination- Width of the keratinized gingiva

Case Report

A female patient, aged 30years presented to Dental Clinic with the complaint of 'smaller sized teeth in the upper front region and wanted a prettier smile'. On clinical evaluation patient was examined with a gummy smile.

Materials and Methods for Smile Analysis of the Patient

Picasso lite soft laser from the AMD lasers was used to treat this case. Scaling and polishing was completed before laser gingivectomy was performed.

Diode Laser Gingivectomy

The procedure was done using Picasso single use disposable tips. The tip was activated in contact with

the gingiva, in continuous wave for 5 to 8 seconds. And moved over the gums to the required height.

About 1.2-1.4 mm of gingival sulcus was retained to avoid inflammation of the tissue and prevent impingement of biologic width.

The procedure was performed under local anesthesia. Careful probing of the sulcus was done to measure the accurate depth of the gingival sulcus complex, and the amount of free gingiva that is available to be excised.

Analysis



Fig 1: Golden proportion / Tooth size measurement



Fig 2: Location of CEJ/ New Biological Width / New Zenith Line



Fig 3: Smile Line and Black Triangle

Post-treatment crown lengthening of about 3mm was obtained which can be appreciated in the photographs. Minor areas, where carbonization occurred, were eliminated by applying hydrogen peroxide soaked pellet and scrubbing the area gently.⁽¹⁾



Post treatment

3 weeks after epithelialization



Before and After Photos



Discussion

Aesthetic gum contouring with diode laser is predictable and minimally invasive procedure that can produce immediate results and is easily acceptable to the patient.⁽¹⁾ The major factor to be taken into consideration, while doing excision is to preserve the biologic width.⁽¹⁾ Biological width is a summation of junctional epithelium and supra crestal connective tissue attachment.⁽²⁾

Moving the gingival more apically to increase the tooth size to have better smile and to re stabilize the biological width

The laser procedure was aimed to maintain the aesthetic and functional properties of biological width.

Conclusion

Gingival topography is a complex interplay of the underlying bony architecture and the size, and position of teeth.⁽⁴⁾ The designing of dental aesthetics is to have equal proportion of both white-tooth and pink-gingival components. Reducing the gingival contour and increasing the tooth length is always effective in aesthetics.

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