Enhancing the smile with botox-Case Report

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Abstract

Introduction:The psychological stress due to gummy smile could be the key reason to seek orthodontic treatment. Botox has shown to be most effective and minimally invasive technique to correct the gummy smile which is caused due to short upper lip. This case report was done to show its clinical changes in the correction of gummy smile.Methods: Three patients received BTX-A injection and the patients were clinically evaluated one week, two and three weeks post operatively with changes documented in the photographs.Results: After four weeks, results were definitely observed with a decrease from 8 mm gingival exposure to 3 mm. Conclusion:The use of Botox isa conservative treatment in patient with short upper lip and gummy smile. However the improvement is temporary and must be repeated every six months to one year.

Index terms— gummy smile, short upper lip, botox.

1 Introduction

miling is the most powerful communication and people with attractive smile radiate warmth that draws others to them instantly.Unattractive smile due to short upper lip and excessive gingival exposure can be self-conscious or even psychologically affected and hence could be the main reason to seek orthodontic intervention.

In many instances, orthodontist may fail to correct gummy smilewithout surgical procedures like lefort 1 osteotomy, crown lengthening and myectomy to muscle resection 1 .The goal of an orthodontist is to attempt a non-surgical and minimally invasive treatment Three patients between the age group of 17 to 21 years visited the department of orthodontics and dentofacial orthopaedics, Yenepoya University with the chief complaint of excessive gummy smile. On examination one patient had a short upper lip with normal maxilla and other two had short upper lip with vertical maxillary excess, but were not willing for surgery.

At the beginning of the treatment extra-oral smiling photographs were taken.Patients were thenreferred to the Department of Dermatology of the same university and Botox allergic test was done in each individual prior to Botox injection. Botulinum toxin type A (BTX-A) was diluted by adding 4.0ml of 0.9% normal saline solution without preservatives to 100 U of vacuum -dried C botulinum type A neurotoxin complex, according to the manufactures dilution technique. This resulted in a 2.5 U/0.1 ml dose. 1.25U per side was injected in both the right and left levator labii superioris and levator labii superioris alaque nasi muscle (LLS) and an additional 1.25 U per side at the overlap areas of the levator labii superioris and zygomaticus minor muscles (LLS/ZM). Aspiration before BTX-A, injection was done to avoid involuntary deposition of the toxin into the facial arteries (figure1,2). The patients were clinically evaluated 1 week, 2 weeks and 4 weeks post operatively.

2 II.

3 Results

The results of this clinical trial were analysed both by clinical evaluation of gummy smile and with pre and postoperative photographs. The following measurements (called A,B and C) were recorded: A: RP1 to superior border of upper lip vermilion; B: RP1 to inferior border of upper lip vermilion; and C: inferior border of upper

lip vermilion border to junction of the gingiva with maxillary right central incisor crown along its own midline (figure 3).

All patients began to show improvement approximately 15 days after the injections (figure **??** -9). After 4 weeks results were definitely observed with a decrease from 8 mm gingival exposure to 3 mm, which was considered as normal gingival display for an adult during smiling.

4 III.

5 Discussion

The surgical correction of the short upper lip and gummy smile by gingivectomy was an alternative treatment but they are not routinely used to treat hyper functional upper lip elevator muscle. Lefort I osteotomy with superior impaction is most commonly adopted to treat skeletal vertical maxillary excess and the most common limitation of this procedure is the congestion of nasal air way function 2 . We could avoid extensive surgical procedures and its side effects with the use of Botox.

gummy smile, short upper lip, botox.

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Methods: Three patients received BTX-A injection and the patients were clinically evaluated one week, two and three weeks post operatively with changes documented in the photographs.

Results: After four weeks, results were definitely observed with a decrease from 8 mm gingival exposure to 3 mm.

6 Conclusion:

The use of Botox isa conservative treatment in patient with short upper lip and gummy smile. However the improvement is temporary and must be repeated every six months to one year.

7 Keywords:

Botox injection is an excellent treatment modality in achieving a pleasing smile. A satisfactory result was achieved in all cases and in turn it boosted their self-confidence and social acceptance.

Rubin et al 3 concluded that the levator labii superioris, the zygomaticus minor and superior fibres of buccinators musclesunder the nasolabial fold are responsible for the production of a full smile. Pessa 4 indicated that levator labii superioris alaque nasi was responsible for the formation of medial portion of the fold and minimally responsible for the elevation of upper lip and smile formation and he also found that zygomaticus major and minor are responsible for smiling. The ability of BTX-A to produce muscle paralysis by chemodenervation has been utilized to treat our patient with hyper active upper lips.We achieved a reduction of gingival exposure from 8 mm to 3 mm in all our cases. According to Sarver 5 , a slight amount of gingival exposure is acceptable and that contrary to posed smile, an unposed smile is natural in that it expresses authentic human emotion.

IV.

8 Conclusion

It's the time to broaden the horizon of our profession.The use of Botox is effective, minimally invasive, conservative treatment in patient with short upper lip and gummy smile. However the improvement is temporary and must be repeated every six months to one year. Post Figure **??** [1]

Figure 1:

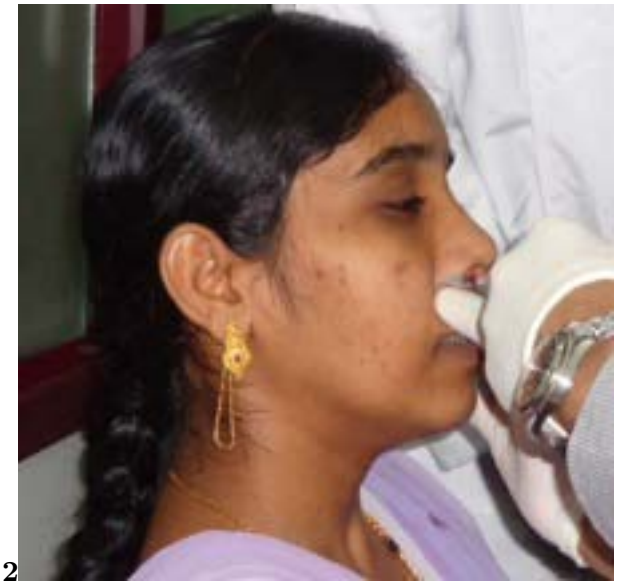

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Figure 2: Figure 2

3 

Figure 3: Figure 3 Patients

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