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Periodontal plastic surgical management of traumatic mucogingival deformities – A case report



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ABSTRACT

The mucogingival deformities are most commonly encountered periodontal problems in day to day periodontal examination. Such deformities may disturb the healthy relationship between gingiva and alveolar mucosa, and may also interfere in the lip movement and proper brushing due to shallow vestibule. These deformities may be congenital or due to periodontal diseases. Sometimes the malpositioned tooth/teeth may also be responsible for the traumatic mucogingival deformities, if not timely corrected may lead to further complications, especially in children as they are more prone to have traumatic injuries. Such type of teeth may injure the lip in routine accidents which may lead to mucogingival deformities. Though, such types of reported cases are very few in number.

Presenting an interesting case report, where traumatic mucogingival deformities are corrected with two stage periodontal plastic surgical management.

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1. Introduction

Friedman[1] in 1957 initially introduced the term "Mucogingival Surgery" to describe surgical procedures for the correction of relationships between the gingiva and oral mucous membrane with reference to three specific problem areas: attached gingiva, shallow vestibule and a frenum interfering with the marginal gingiva. In 1996 World workshop in Clinical Periodontics recoined the term "Mucogingival Surgery" as "Periodontal Plastic Surgery", a term originally proposed by Miller in 1993 and broadened the horizon of the mucogingival surgery by including the various areas[2,3] like: periodontal-prosthetic corrections, crown lengthening, ridge augmentation, esthetic surgical corrections, coverage of the denuded root surfaces, reconstruction of papilla, esthetic surgical correction around implants, and surgical exposure of unerupted teeth for orthodontics.

The scope of periodontal plastic surgery can be further increased when traumatic mucogingival deformities can be corrected. Though, the reported cases of traumatic deformities are very few in the literature. But, in the present era of automobile accidents and trauma due to other reasons, especially in children, a need to treat such deformities must be emphasized. Rawal S Y et al reported that a variety of chemical, physical, and thermal injuries may involve the gingiva. They also mentioned that accidental and iatrogenic injuries are often acute and self-limiting, while factitious injuries tend to

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be more chronic in nature.[4] The traumatic mucogingival deformities not only demands immediate esthetic attention but, at the same time the mucogingival relationship is to be addressed immediately to prevent the further destruction.

2. Case report

A 17 year old male was referred to the Department of Periodontics with the chief complaint of swelling in gums of upper anterior region since last 5–6 months, with the history of trauma about 5–6 months back, when one day he slipped on floor and injured his upper lip and gums. Then, after sometime he noticed a swelling on the right front upper gum region. The swelling gradually increased in size and reached to present size. Earlier it was a painless swelling, but covered complete right front tooth. Therefore, his routine activity was getting disturbed, especially during hours of sleep [Fig. 1].

Swelling was approximately 1.5 cm × 1.5 cm in size covering the entire right upper central incisor. Emerging from the marginal gingiva on buccal and palatal surface of the tooth appeared to be fused to the labial mucosa. Swelling was pinkish in color, and firm in consistency. No bleeding on probing, but slightly painful to touch. On intraoral periapical radiographic examination, no abnormality was detected other than right upper central incisor that was malposed and labially tilted. Coronal portion of right upper central incisor was completely out of arch and labially placed than that of neighboring teeth. Due to trauma, upper lip was injured with right upper central incisor, that got stuck in upper lip and gradually injured tissue became fibrosed. This created mucogingival deformity that caused restricted movement of upper lip and gradually affected the function and esthetics of the region, compelling him to visit the dental college for

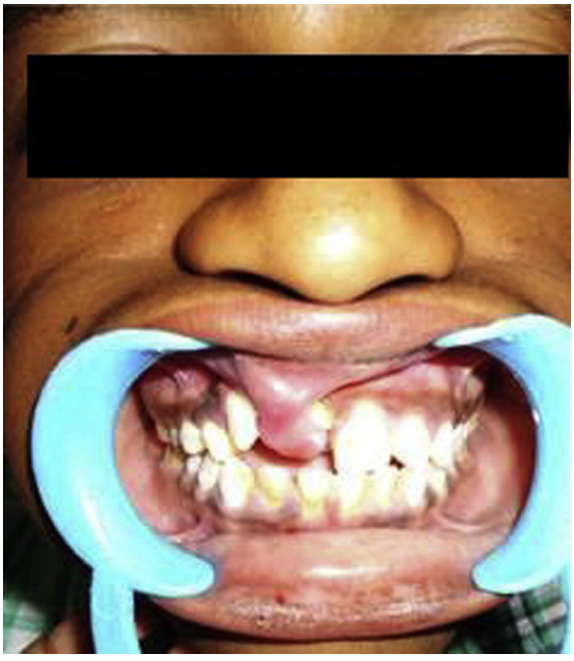


Fig. 1 – Pre-operative photograph of the patient.

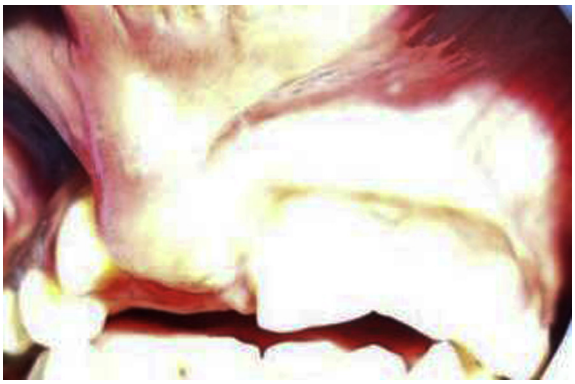


Fig. 2 – Pre-operative photograph of the patient showing traumatic mucogingival deformities.



Fig. 3 – Excision of the growth from palatal aspect with the help of BP knife.



Fig. 4 – Photograph showing release of growth from palatal aspect of right upper central incisor.



Fig. 5 – Further excision of growth with the help of Kirkland gingivectomy knife to achieve better contour.

treatment. After routine investigations, periodontal plastic surgery was planned under local anesthesia. Initially, an incision was given palatally with the Bard Parker (BP) knife blade no. 15, to separate the attachment of overgrowth from palatal region. After giving separating incisions palatally and labially, right upper central incisor was exposed. The fibrous growth was excised; tissues were possibly corrected and sutured with 4–0 silk suture [Figs. 2–10]. Periodontal dressing was placed labially, and it was decided to plan the second stage surgery after 3 months, to further improve the mucogingival relationship.

After 19 weeks, second stage periodontal plastic surgery was performed in an attempt to increase the width of attached gingiva and for deepening of vestibule [Figs. 11–15]. One week after the second stage surgery patient was recalled to review further [Fig. 16]. Though, still more mucogingival corrections are required, but patient is not ready to undergo further treatment which is needed for esthetic and functional corrections and to prevent further trauma.

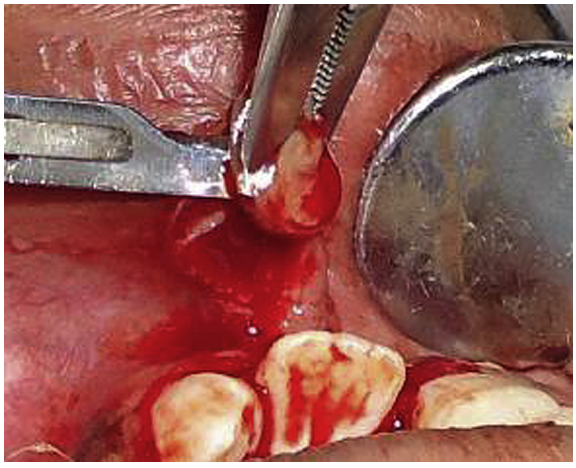


Fig. 6 – Excision of fibrous growth from the labial aspect of right upper central incisor.

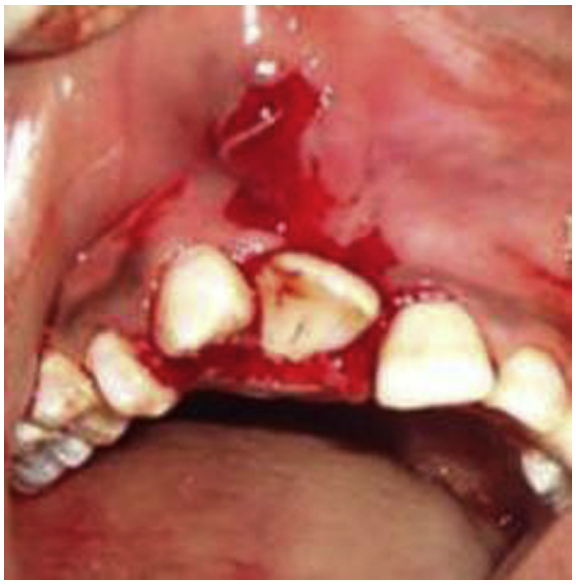


Fig. 7 – Photograph showing exposure of coronal portion of the right upper central incisor.

3. Discussion

The mucogingival deformities are most commonly encountered periodontal problems in day to day periodontal examination and they certainly demand immediate attention. Such deformities may disturb the healthy relationship between gingiva and alveolar mucosa. They may also interfere in the lip movement and proper brushing due to shallow vestibule. These deformities may be congenital or due to periodontal diseases. Sometimes the malpositioned tooth/teeth may also be responsible for the traumatic mucogingival deformities, which if not timely corrected may lead to further complications, especially in children as they are more prone to have traumatic injuries. Such type of teeth may injure the lip in routine accidents which may lead to mucogingival



Fig. 8 – Photograph showing correction of defect and sutures.

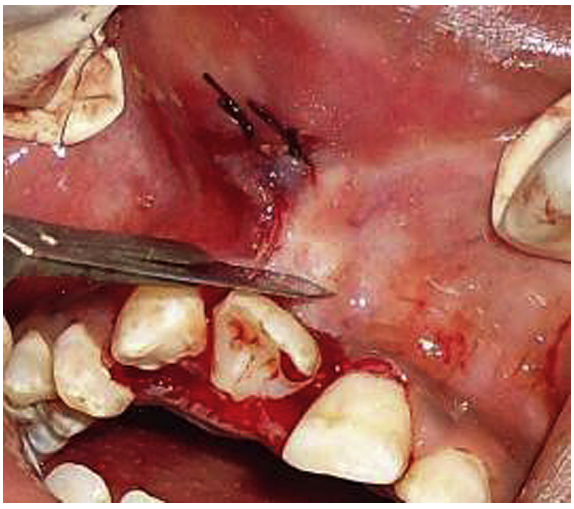


Fig. 9 – Photograph showing procedure to increase the width of attached gingiva.



Fig. 10 – Photograph showing placement of periodontal dressing.



Fig. 11 – Post-surgical photograph front view, after 19 weeks.



Fig. 12 – Post-surgical photograph from palatal aspect, after 19 weeks.



Fig. 13 – Photograph showing Second stage surgery to further improve the defect.

deformities. Though, such types of reported cases are very few in number.

In the present case the right upper central incisor was severely malaligned. Patient had an accident and thus developed severe mucogingival deformities. Therefore, the deformities were possibly corrected by two stage periodontal plastic surgical procedures. But, the malaligned tooth is yet to be corrected orthodontically. At present, patient is not willing



Fig. 14 – Photograph showing sutures placed.

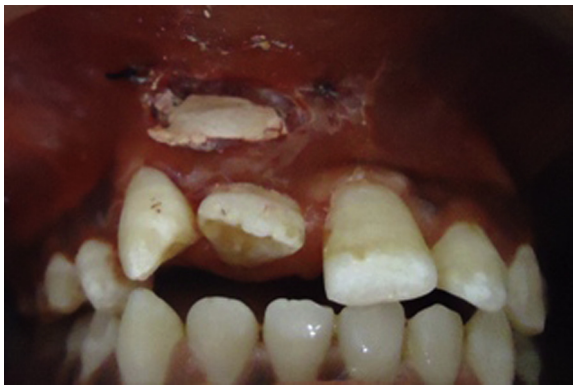


Fig. 15 – Photograph showing periodontal dressing.



Fig. 16 – Photograph of 4 weeks after second stage surgery showing significant improvement in the traumatic mucogingival deformities.

to undergo orthodontic treatment. Still, we are convincing the parents of the patient so, the patient can undergo orthodontic treatment in near future.

4. Conclusion

The mucogingival involvements are most commonly encountered clinical manifestations in periodontal practice. These deformities may be congenital or may be due to periodontal diseases. Traumatic gingival lesions are generally less commonly seen, as they may be self limiting. But, sometimes forceful injury may lead to severe deformities and thus demands periodontal plastic surgical management.

Conflicts of interest

The author has none to declare.

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