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MULTIDISCIPLINARY APPROACH IN TREATMENT OF PERIODONTALLY COMPROMISED PATIENT:-A CASE REPORT

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ABSTRACT

A multidisplinary approach is often required for the correction of complex dentoalveolar problems in patients and this can be better explain by ortho-perio integration. This approach are beneficial to maintain the health and integrity of the attachment apparatus of teeth. In present case report of a 19 yr old female patient with chief complain of forwardly placed upper anterior teeth along with spacing and mobility.

KEYWORDS: Anterior esthetics, interdental papilla, papilla, orthodontic intervention, regeneration, periodontal surgery.

INTRODUCTION

The acceptable functional and esthetic occlusion can be achieved by proper tooth movement in orthodontic treatment. Some periodontal changes occur frequently such as soft tissue loss in the interproximal area of teeth during treatment.[1]

Spaces between two adjacent teeth are occupied by gingival portion named Interdental papilla. Its shape and extension results of tight relations between periodontal tissue, tooth form and contact point.[2] Esthetic concerns, phonetic difficulties and food impaction can be expected due to open interproximal spaces.[3]

Apical migration of tissue in the interproximal regions can occur due to different reasons i.e. periodontal diseases, treatment of periodontal diseases, trauma, and other iatrogenic causes. Many techniques have been described with the attempt to resolve this anatomic alteration.

Periodontal surgical therapy must necessary for effort to maintain gingival marginal anatomy and height of interdental papilla. The detail description of papilla preservation flap surgery was given by Takei et al. in 1985. Which ensured optimal coverage of interproximal area by preserving interdental papilla.[4]

Periodontal surgical procedures must be included the soft tissues elevation and resection to gain access to the root surfaces and osseous supporting structures. Consequently during periodontal surgical procedures, compromised esthetics in the anterior aspect of the mouth could be a serious consequence.

Thus it should be consider by the orthodontics to combined regenerative and periodontal surgical treatments an invaluable addition to the armamentarium available for the orthodontic treatment of adult patients with severe loss of periodontal tissues. Similarly, the periodontics should recognize the importance of orthodontic intervention in achieving results unattainable with periodontal treatment alone.[5]

CASE REPORT

A patient aged 19 years reported to the department of Orthodontics and Dentofacial Orthopedics at career postgraduate institute of dental sciences & hospital, with chief complain of forwardly placed front teeth and spacing of teeth. On examination, on the class 1 skeletal base, she had proclined maxillary and mandibular anterior teeth with spacing, deep bite, crowding in the posterior segment with scissor bite. Patient had undergone treatment since 6 month. During the period of treatment they found mobility in anterior teeth. The patient was referred to the department of periodontics for further investigation and opinion. On soft tissue examination, she had inflamed gingiva with deep periodontal pockets. They diagnosed her to be having chronic localized periodontitis compounded with trauma from occlusion. On clinical examination, grade I mobility of maxillary anterior teeth was seen [Fig:- 1A] and intraoral radiograph show angular bone loss(Fig:-1B).

After inter departmental discussion on the treatment plan, it was decided to proceed with following steps in this case.

1. Phase I therapy comprising of scaling and root planing.
2. Removal of copper NITI wires after scaling and root planning to avoid hinderance during surgery.
3. papilla preservation flap.

The selected surgical site was anaesthetized with 2% xylocaine HCL with adrenaline (1:80,000). The procedure is initiated by an intrasulcular incision at the facial and proximal aspects of the teeth without making incisions through the interdental papilla using Bard–Parker knife with blade no. 15.(Fig:-2).

Subsequently, an intrasulcular incision is made along the lingual/ palatal aspect of the teeth with the semilunar incision made across each interdental incisions. The semilunar incision should dip apically by atleast 5mm from the line angle of teeth, which will allow the the interdental tissue to be elevated in the facial flap. In situations where an osseous defect has a wide extension into the lingual/palatal area, the semilunar incision may be plced on the facial aspect of the interdental area to include papilla in the lingual/palatal flap.(Fig:-3).

A curette or interdental knife is used to free the interdental papilla carefully from the underlying hard tissue. The detached interdental tissue is pushed through the embrasure with blunt instrument. A full-thickness flap is reflected with periosteal elevator on both facial and ligual/palatal surfaces.(Fig:-4).

The root surfaces are thoroughly debrided and bone defects carefully curetted. While holding the reflected flap, the margins of the flap and the interdental tissue are trimmed to remove pocket epithelium and excessive granulation tissue. In antrerior ares, the trimming of granulation tissue should be limited in order to maintain the maximum thickness of tissue.

The flaps are repositioned and sutured using cross mattress sutures.(Fig:-5) Alernatively, a direct suture of the semilunar incisions can be placed as the only means of the flap closure. A surgical dressing may be placed to protect the surgical area.

The dressing and sutures are removed after 1 week.(Fig:-6). Patient recall after 6 month, Intraoral radiograph had been taken that show bone regeneration between anterior teeth(Fig:-7).

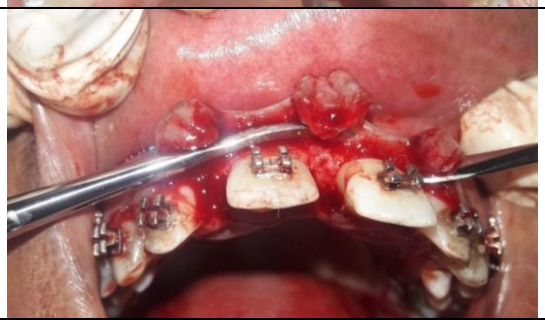
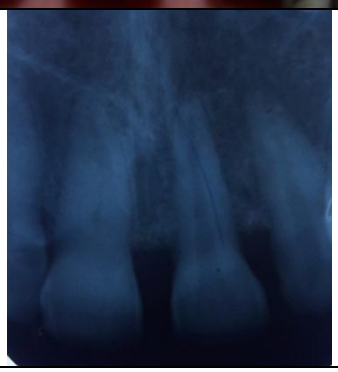
	**Fig:-1 A. Pre-operative**
	**Fig:-1 B. Pre-operative radiograph**
	**Fig:-2. Intrsulcular incision at facial surfaces**
	**Fig:-3 semilunar incisions on the palatal aspect**
	**Fig:-4 full-thickness flap is reflected with periosteal elevator on both facial and ligual/palatal surfaces.**

	**Fig:-5 suture placed**
	**Fig:-6 post operative view**
	**Fig:-7 post operative radiograph after 6 month**

DISCUSSION

An ideal approach of periodontal therapy is improves esthetic appearance due to an effort to maintain gingival marginal anatomy and height of interdental papilla during course of periodontal therapy. A surgical approach which split interdental papilla causes shrinkage and decrease the height of interdental papilla and leads to exposure of interproximal embrssures. Elimination of the angular defects is also the goals of periodontal therapy.[6] Periodontal regeneration therapy is the elective treatment of vertical bone defects present in esthetic area, Only some of the them are successful out of proposed many technique.[7]

The surgical procedure presented in this case report allows regeneration of angular defects involving the maxillary anterior teeth with interdental diastemas. Kromer (1956) introduced the first case report of a papilla preservation flap technique to retain osseous implants.[8] A similar procedure described by APP in 1973. Takei et al. in 1965 revealed the detailed of a surgical procedure named papilla preservation flap. According to this surgical procedure, a full-thickness flap had been raised by palatal semilunar incision at least 3mm apical to the margin of the interproximal bone defects.[4]

Checchi et al in 2009 evaluated long term effect of papilla preservation surgical procedure and concluded that after 22 years, interproximal tissue were intact but buccal surface of root of left central incisiors, lateral incisiors and premolars were partially exposed.[9]

CONCLUSION

Patients having orthodontic treatment should maintain the periodontal health. Periodontally compromised patients are contraindicated for the orthodontic treatment because it causes further bone loss resulting in tooth mobility.

Thus oral hygiene instructions, proper brushing technique must be given for the patients having orthodontic treatment.

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