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PRESERVING PAPILLA – A CASE REPORT

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Abstract: **An effort to build periodontal health through periodontal therapy led to the absence of inflammation, the removal of periodontal pockets, and the possibility for the patient to preserve their health, functionality, and appearance. Only when the integrity of the papilla is preserved is periodontal surgical therapy utilised in periodontal abnormalities with maxillary anterior dentition achievable in an aesthetic manner. In this case report , combination of papilla preservation flap and its modification- simplified papilla prevation flap is performed in esthetic area according to the indications of each procedures .**

Keywords: Papilla, Papilla preservation Flap, Simplified papilla preservation flap

Introduction

An ideal periodontal therapy must necessarily consider esthetic appearance, which means an effort to maintain gingival marginal anatomy and as much height of papilla as possible along the course of the periodontal therapy. [2]

In many cases, non-surgical treatment is advised for maxillary anterior dentition. There are, nevertheless, some circumstances where surgical therapy is unavoidable. The interdental papilla will undoubtedly shrink and lose height, exposing the interproximal embrasures as a result of a surgical technique that splits the papilla. This prompted the creation of a flap technique meant to preserve the papilla rather than separate it. The Papilla Preservation method was probably initially described by Kromer in 1956 and was intended to keep osseous implants in place [4].

Similar surgery was described by App in 1973 under the name Intact Papilla Flap, which kept the interdental gingiva in the buccal flap [5]. While the palatal tissues were reflected individually, Evian et al retained the interdental gingival in the face flap, exposing osseous margins on the labial and the interproximal zone [6]. In 1984, Genon and Bender also described a comparable procedure that was intended for aesthetic uses. The surgical technique described earlier by Genon by Takei et al. in 1985 was given a thorough description and given the name "Papilla Preservation Flap" because it ensured optimal interproximal coverage, facilitated the placement and retention of bone grafts, and prevented exfoliation of the graft material[7]. However, in order to keep the interdental tissue in place, there must be enough room between the teeth and no tight contact points[4].

In 1995, Cortellini et al. suggested a change to the PPF and called it the Modified Papilla Preservation Flap[9]. Papillary preservation flap and its modified flap design, known as the Modified Papilla Preservation Flap (MPPF), both needed a large interdental gap as a prerequisite to produce noticeable functional and aesthetic value. The Simplified Papilla Preservation Flap Technique was devised by Cortellini et al in 1999 to provide aesthetic value to teeth with limited interproximal zones[10].

CASE REPORT

A 38 old female patient, who was in good general health, had no known allergies, and practised good oral hygiene, reported with the cheif complaint of migration of supper front teeth over the past 5 to 6 years. Intraoral examination revealed generalised periodontal pockets that bleeds when probed. In the 11 and 21 areas, there was sufficient keratinized tissue and papillary frenal attachment, and there was spacing relation to the upper anteriors, 36 and 46 was missing for ten years, which caused collapse of the occlusion and TFO.(fig.1)The radiographs revealed horizontal bone defects in relation with maxillary anterior teeth. Based on the clinical and radiographic data, patient was diagnosed to have chronic periodontitis(fig.2)

Subsequent scaling and root planing was achieved and patient was motivated for oral hygiene care. laboratory examination revealed that the patient was anaemic (HB- 9%), patient was refered to physician and was prescriped for three months of iron supplements.
Meanwhile patient underwent prosthetic rehabilitation in relation to 36 and 46 which releved TFO.

The areas were re-assessed after 3 months for gingival health, pocket probing depths There was persisting pockets of 9 mm-11 ,21 and 6 mm-12,13,14,15,16 which indicated a need for surgical intervention with predictable esthetic value .Papilla preservation flap surgery was the ideal choice in relation to the two central incisor teeth, as these teeth presented wide interdental spacing with a broad interproximal gingival zone which is a pre-requisite for Papilla preservation flap technique. Simplified papilla preservation technique in relation to 12 and 13 as the spacing is less than 2 mm. Conventional flap was planned with teeth 14,15 and 16. The patient gave her consent to the treatment protocol after the form of therapy was explained to her.

Adequate anesthesia using 2% lignocaine with a concentration of 1:20,0000 epinephrine was obtained. The extent of bone defect was probed as the extension of the osseous defect in relation to the palatal or lingual aspect of the interdental papilla determines the position of semilunar incision. The facial surface was prepared with a sulcular incision around teeth 11 and 21 with no incisions made through the interdental papilla.

The palatal flap design consisted of sulcular incisions along the palatal aspect of the teeth in relation to the central incisors with a semilunar incision made across the interdental papilla in relation to the teeth 11 and 21.This semilunar incision was made such that it dipped apically from the line angles of the tooth so that the papillary incision line was at least 5 mm from the gingival margin which allowed the interdental tissue to be dissected from the palatal aspect facilitating intact elevation with the facial flap.

An oblique incision was made in the buccal surface of the interdental space between teeth 11, 12, and 13 between the gingival border and buccal line angle, reaching the middle of the interproximal papilla beneath the contact point of the next tooth.
In order to elevate a buccal flap and expose 2-3 mm of alveolar bone, the oblique incision is continued intrasulcularly in the buccal surface of the teeth next to the defect. It is also partially dissected the papillae of the neighbouring interdental gaps (fig. 3). The papilla was separated with a facial and palatal flap in order to access the remaining parts of the maxillary anterior segment, which did not have any interdental space.

Once the incisions were completed, the flaps were reflected and the interdental papilla was freed from the underlying hard tissue. The detached interdental tissue was pushed through the embrasures with a periosteal elevator such that the flap could be easily reflected with an intact papilla.

To get rid of the pocket epithelium and granulation tissue, the underside of the reflected flap was scraped and trimmed. The thickness of the interdental tissue prevented post-operative gingival recession and maintained an adequate blood supply. The defect was debrided with curettes and thorough scaling and root planing was performed.

The flap containing the papilla was brought into good contact with the incision line on the palatal and buccal aspect and a direct suture was applied. The flaps raised using the traditional manner were then sutured together using interrupted sutures. A surgical dressing was applied because it lessens the possibility of flap displacement by chewing, unintentional teeth cleaning, or tongue interference.

The patient was told to rinse twice day for two weeks with 0.2% chlorhexidene. One week after surgery, the periodontal dressing and sutures were removed. The recovery went smoothly. Beginning in the second post-operative week, the patient was recommended to begin mechanical oral hygiene. Every month, supportive periodontal therapy was given, along with reminders to practise good oral hygiene.

Figaure.1

Figaure.2

Figaure.3

Figaure.5

Figaure.4

Figaure.6

DISCUSSION

The papillary preservation maintainable on gingival aesthetics is the cornerstone of the contemporary periodontal paradigm [3]. In order to achieve the best possible function and aesthetics while treating the aesthetic zone, it is preferable to use a flap technique that maintains the gingival margin's anatomical structure. The papilla functions as a biological barrier to safeguard the attachment apparatus in addition to playing a crucial part in aesthetic and phonetic functionality [11].

The complete papilla is included in the papilla preservation flap, which is one of the flaps. The papillary preservation flap approach guarantees a result that is extremely comparable to the situation before surgery by preserving the soft tissues in addition to the interdental papilla.

In order to reduce the periodontal pockets and achieve an aesthetically attractive result, the papillary preservation flap technique and simplified papilla preservation flap technique was used in the present instance on teeth 21,11,12,13 in the front maxillary dentition. Soft tissue craters did not form after surgery in the area where the papilla was spared, but a minor dip was seen in the tips of the papilla where standard flap incisions were performed. During the course of supportive periodontal care, the gingiva exhibited health with normal pyramidal shaped interdental papilla and no gingival bleeding. When the pockets were probed after six months, it was found that the depth of the pockets had significantly decreased (remaining probing depth: 3mm), and the soft tissue shape had improved.

Even in posterior teeth with small interdental gaps, a simplified papilla preservation flap can produce better aesthetic results [10]. These flap procedures should be considerd when there is an esthetic demand ,even if they are time-consuming, technique-dependent, and have specific clinical indications.

CONCLUSION

It is important to keep the papilla's integrity during periodontal surgical therapy. The flap surgical technique for maintaining the papilla's aesthetic value and providing a better method for interproximal regeneration operations. Simplified papilla preservation flap surgery can be used in narrow and anterior/posterior interdental spaces to achieve both functional and aesthetic value. Conventional and modified papilla flap preservation techniques are used for wide interdental spaces in the anterior and pre-molar region.

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