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Gingival epithesis: An esthetic solution in periodontally compromised patients

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Abstract

Background: Healthy gingiva plays an important role in the esthetic appearance of the smile. Gingival recession gives unaesthetic look. Dramatic aesthetic results have been obtained with the flexible silicone gingival mask which can be used to correct deformities remaining after control of destructive periodontal disease.

Case Report: This case report presents a gingival prosthesis to cover anterior gingival recession. A simple two-stage impressionistic technique is described, enabling to produce comfortable and accurately fitting masks, which are very stable during use.

Conclusion: Gingival illusion/gingival epithesis used to replace lost tissue when other methods such as surgery or regenerative procedures were considered unpredictable or impossible. The silicone mask may be used as an interim measure to improve the appearance of anterior crowns after initial periodontal therapy for esthetic and to allow time for healing the establishment of periodontal stability and prognosis.

Keywords: Gingival illusion, gingival epithesis, gingival recession, prosthesis.

1. Introduction

Periodontal disease results in destruction of the supporting structures of the teeth such as bone and periodontal ligament. In many cases the loss of gingival coverage of teeth occurs along with the bone loss. This results into loss of interdental papillae and formation of black triangles between the teeth, thus giving an unpleasant esthetic appearance, phonetics problem and food lodgment^[1].

There is however no predictable surgical method for correcting the esthetic deformities which results from periodontal attachment loss. Gingival illusion can be one of the treatment choices in such cases. Gingival illusion/gingival epithesis used to replace lost tissue^[2].

2. Case Report

A 50 years male patient was reported with a complaint of bleeding gums, mobile teeth, unaesthetic look of the anterior teeth. On intraoral examination, it was found that there was generalized gingival recession and mobility with some teeth. Calculus and stains were present. The patient was diagnosed as having chronic generalized periodontitis.

On examination, there was generalized gingival recession, noted in the upper anterior region (recession was 3-4mm below CEJ). There was loss of interdental papilla leaving black triangles. There was periodontal pocket with rounded interdental papilla. Lip line was evaluated at rest, during speech and during broad smile. It was found that interdentally black triangles were seen on smiling. There was lisping of sound while pronouncing sound 'S'. Periodontal disease has already lead to destruction of the supporting structure along with the loss of interdental gingival leaving black triangles in between the teeth which couldn't be covered even after the periodontal therapy. (Fig-1). Hence prosthetic illusion was planned after oral prophylaxis and flap surgery to eliminate the pockets. Fractured incisor was restored with composite.

2.1 Construction of gingival illusion/epithesis

A labial acrylic custom tray was made on a model cast from a preliminary alginate impression. Spacer was not given.



Fig 1: Preoperative view of anterior region with recession.



Fig 2: Special tray placement on model cast

The tray was extended into the labial sulcus, without overextension, to create a good peripheral seal in the final mask (Fig-2). Palatal barrier was done to fill embrasures and to prevent the flow of impression material. Master cast was prepared after taking an impression with the silicone impression material. Marking for gingival illusion extension was made on final cast (Fig-3). Heat cured acrylic gingival illusion was fabricated with the use of silicone based material. The mask was delivered to patient after necessary trimming and polishing (Fig-4). Patient was instructed for proper oral hygiene maintenance and to avoid smoking, frequent drinking of tea coffee and wine. Subsequent recall visit showed healthy gingival tissue and better esthetic with prosthetic appliance.



Fig 3: Marking for gingival illusion extension on final cast



Fig 4: Gingival illusion in the mouth.

3. Discussion

Gingival recession and loss of interdental papillae may cause functional, phonetics and esthetic problems. Several surgical and nonsurgical methods are advised to correct gingival defects. Surgical correction is advisable in minor recession case where as in severe recession cases as in our case prosthetic appliance (gingival epithesis/illusion) to mask the defect is better advised [3]. This prosthetic appliance mimics original tissue contours [2]. The gingival epithesis is easy to fabricate, which provides a simple and safe alternative solution for nonsurgical management of defects [4].

Gingival epithesis are classified as removable, fixed and removable with fixed attachment. [2] Various materials are used for gingival illusion such as pink self-cure acrylics, heat-cured acrylics, porcelains, composite resins, silicone-based soft materials. Silicon based soft material is most commonly used as it provides an esthetic solution which is comfortable and accurately fitting [2, 5]. Fixed prosthesis gives comfort and self-confidence to patiently but are limited in situations like poor plaque control, unstable periodontal health, high caries activity, heavy smoking and known allergy to silicone [2, 6].

Gingival defects can be treated with surgical or prosthetic approaches. Surgical means are effective when small volume of gingival tissue is lost. When gingival defects involve multiple teeth, surgical procedures are of limited use. Gingival veneer/gingival mask or gingival epithesis is of value in such cases [7]. This type of prosthesis is an intermediate solution until a permanent solution can be achieved or can be used when other methods such as surgery or regenerative procedures were considered unpredictable or impossible [2, 3]. Gingival prosthesis is of considerable importance, especially in patients whose systemic health makes them unsuitable for repeated surgical treatments and who desire improved aesthetics following surgical treatment. It is a non-invasive, simple, economical treatment option with easy maintenance subsequent to insertion [8].

Smile pattern of patient should be classified before starting treatment. Smile can be classified as; commissure smile (it is most common smile pattern, spontaneous smile results in a maximum movement of the commissure), cupid smile (shape of the lips are commonly visualized as a diamond) and complex smile (key characteristic of this smile is the strong muscular pull and retraction of the lower lip downward and back) [9]. Our patient had a commissure smile pattern.

These prosthetic epithesis are flexible enough to engage the undercuts and to be retentive without any harmful forces on the involved teeth. The prosthesis should be removed after food intake and should be thoroughly cleaned. It should not be worn during night times. It should be kept in a denture cleaning solution whenever not in use and should never be left outside the moistened environment as it may cause distortion. Brushing the prosthesis helps to prevent the appliance from becoming permanently stained. It is best to use a brush that is designed for cleaning dentures. Disadvantages of epithesis are; poor patient compliance, food impaction and associated bacterial growth, and chances of breakage or discoloration of the prosthesis [8]. Even with some disadvantage, gingival prosthesis fulfils the immediate esthetic need of the patients.

4. Conclusion

Gingival illusion/gingival epenthesis are an alternate method to replace lost tissue when other methods such as surgery or regenerative procedures were considered unpredictable or impossible.

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