

Reign of Esthetics - A Multifaceted Approach to a perfect smile !

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Abstract:

Enhancement of facial beauty is one of the primary elective goal of patient seeking dental care. To achieve this goal the restoration has to be in harmony with the soft tissue hence the treatment should be meticulously planned while making prosthesis. Healthy appearance of the supporting tissue and its architecture are the key components for enhancing the esthetic value of dental restoration. The use of gingiva-colored ceramics has been suggested to address the esthetic needs in such patients. In this article a case series of patient with defect have been treated with this pre decided objective, for proper gingival architecture. The use of gingiva coloured ceramics to enhance the esthetic results is here by demonstrated as a suitable treatment modality.

Introduction :

A challenge facing clinicians is the achievement of an optimal long-term esthetic result. However, periodontal disease may lead to tooth and tissue loss that can result in esthetic problems. One of the most difficult problems for the clinician is the loss of papillae, resulting in sensitivity and “dark triangles.” Such spaces between the teeth may also result in the escape of air during speech. Some authors suggest alternative prosthetic replacements for lost papillae including a gingival flange retained by precision attachments, a fixed prosthesis with gingival-colored ceramics, or a removable gingival prosthesis [1]. Gingival replacement prosthesis have historically been used to mask the lost tissue when other methods like surgery or regenerative procedures were considered unpredictable or impossible or failed in achieving desired esthetic results in such cases gingival porcelain has been successfully used to camouflage the defect thereby providing optimum esthetics. With this method large tissue volumes are easily masked. Gingival prosthesis takes several forms, and various authors have described their methods of construction. Tissue camouflaging prosthesis may be used to replace tissue lost through surgical gingival procedures, trauma, ridge resorption or traumatic tooth extractions. From a

Prosthodontic point of view, restoration of these areas can be accomplished with either fixed or removable prosthesis. Materials used for gingival prosthesis includes pink self cure and heat cure acrylic resins, composites, porcelains, thermoplastic acrylics and Silone based materials [2].

Case Report :

Case 1:

A 40 year old woman reported to the department of Prosthodontics with a chief complaint of unsightly appearance of her teeth. Detail history and thorough examination revealed that patient had undergone ridge augmentation procedure with respect to lower anteriors viz.41,42,31 and 32. After thorough periodontal evaluation patient presented Seiberts class III defect thus periodontal surgery would not have been satisfactory. Gingival porcelain masking was planned for the patient to close the defect (Fig I). Preliminary impression was made in irreversible hydrocolloid impression material.



Fig I : Intra oral view

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Tooth preparation was done with 43,44,33 and 34 with shoulder margins on labial side and chamfer on lingual side for metal ceramic restoration(Fig II). Retraction was done with retraction cord no 000 which is used in anterior region and final impression was made using putty reline technique with addition silicone (Fig III). Temporization



Fig. II : Tooth preparation done with 33,43&44



Fig III : Final impression with 33,43&44

was given along with masking the defect with pink self cure acrylic resin. This helped in making the patient get accustomed to the definitive prosthesis to be given. Metal try in was done subsequently (Fig IV) and final prosthesis was cemented to the patient with gingival porcelain in



Fig. IV : Metal try in done



Fig. V : Final prosthesis with gingival ceramic

relation to 41,42,31 and 32 (Fig V). Patient was instructed about care and maintenance of the prosthesis and advised periodic recall after every 6 months.

Case 2:

Similar case of a girl aged 22 years reported to the department. Thorough history and examination revealed that patient had an accident one year back and due to trauma lost her lower teeth 41,31. Due to trauma Seiberts class III ridge defect was observed. Due to both horizontal and vertical bone loss ridge augmentation procedure was impossible to correct the defect completely Hence, gingival porcelain was planned for the patient to mask the defect[3]. Diagnostic impressions were made, teeth preparation was done for metal ceramic restoration (Fig. VI). After retraction final impression was made using putty reline technique with addition silicone impression material (Fig. VII). Temporization was done (Fig. VIII) and final prosthesis was delivered to the patient (Fig. IX). Procedural steps similar to case one were repeated for this patient.



Fig. VI : Intra oral view



Fig. VII : Tooth preparation done with 32 and 42



Fig. VIII : Final impression with 32 and 42



Fig. IX : Temporization done with 32 and 42

Discussion :

Gingival defects may be treated with surgical or prosthetic approaches. Gingival porcelains are one of the most widely used materials in today's practice. With the advent of different stains available in ceramics it is easy to mimic the gingival tissue colour thus enhancing esthetics in cases with ridge defects[4]. Application of gingival porcelains has increased to such an extent as implant supported prosthesis are also available with fixed gingival masks in cases of ridge defects[5]. It is possible to create by surgical procedures esthetically pleasing and anatomically correct tissue contours when small volumes of tissue are being reconstructed, but this method is unpredictable when a large volume of tissue is missing. The surgical costs, healing time, discomfort and unpredictability make this choice unpopular.

Prosthetic replacement, with acrylics, composite resins, porcelains and silicones, is a more predictable approach to replacing lost tissue architecture. It is especially useful when a larger amount of tissue needs replacement. Ideal tissue contours can be waxed, processed and then coloured to match the surrounding tissue[6]. The patient need not undergo any additional surgical procedures and receives an esthetically pleasing, functional restoration. It is possible to show the patient a waxed-up result or even take a try-in prosthesis directly to the mouth for evaluation before definitive treatment is initiated. A fixed prosthesis gives the patient significant comfort and peace of mind, as well as self-confidence (because the prosthesis is always present). However, its application may be limited to certain clinical situations where oral hygiene is manageable, the desired esthetic result is achievable or esthetics are not critical, and a fixed prosthesis is already planned for the immediate area.

With a removable prosthesis, a larger volume of tissue can be replaced, but proper cleaning is a must. It is easier

to create an ideal contour with removable prosthodontic materials, and missing tissue can be replaced without disturbing the other dental units [7,8]. If fixed-tooth replacement is planned, a combined approach, with both fixed and removable elements, may be undertaken, with dental attachments being used to increase support and retention.

Conclusion :

Dental esthetics is based not only on the "white component" of the restoration but also on the "pink component." A clear understanding of the colour and form requirements is essential to fabrication of the prosthesis and its acceptance by the patient. Understanding the methods used to incorporate gingival prostheses into prosthodontic treatment is vital to ensuring that patients are offered all possible options at the outset of treatment planning.

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