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RESEARCH ARTICLE

Impression of Esthetics with Removable Partial Dentures - A Review.

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Abstract

Removable partial denture is a revolting modality of treatment that we still must rely upon for certain cases and is a part of the practice. The increased emphasis on physical appearance in modern society has enlarged the demand for esthetic dental restorations. Although the success of implant dentistry has expanded the scope of esthetic fixed prostheses, many patients demand a removable partial denture (RPD) for health, anatomic, psychological, or financial reasons. This article thus focuses on the esthetic aspects that a dentist must place importance upon during the designing and manufacture of prosthesis to provide the attractive outcome.

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Introduction:-

Nowadays, prosthodontics reconstruction, also known as dental prosthetics or prosthetic dentistry. Denture esthetics as defined by Glossary of prosthodontics terms is the effect produced by the prosthesis that affects the beauty and attractiveness of the person. When planning treatment for partially edentulous patients, both masticatory function and esthetics should be taken into consideration. An esthetic prosthesis will improve patient motivation and acceptance. Numerous treatment options exist to restore the partially edentulous mouth.^{1,2} Removable partial dentures (RPD) are an effective and affordable treatment modality to restore function and aesthetics.³ If the main reason for seeking treatment is the need for improved aesthetics, treatment should be geared towards achieving this goal.^{1, 2,4} Failure to recognize patient expectations can lead to non-compliance and failure of treatment.²

This article focuses on the esthetic considerations during various phases of removable partial denture planning and fabrication that should be kept in mind by the clinician and can aid him/her in achieving an excellent esthetic outcome as far as the patient's realistic expectations are concerned.

Analysis and Management:-

Esthetic considerations and assessment should begin with the entry of the patient into the dental office. A good clinician should have excellent observation and listening skills so that he/she can interpret them well and arrive at an accurate diagnosis.

Decisions regarding types of retaining components, thickness of flange, placement of artificial teeth, etc. must be made with the final esthetic result in mind at this stage. Factors like undercuts, diastemas, reduced ridge space should also be paid attention to. The length and mobility of the patient's lips are also important. Various factors including the attitude of patient, his perception of esthetics and the status he/she holds in the society must be kept in mind while planning a removable prosthesis. Quite often, a patient who is dissatisfied with the esthetic appeal of his prosthesis complains of inability to wear it although it is functionally good. A good esthetic result thus can motivate the patient to wear his new denture.

Surveying:-

It is essential to determine a path of insertion or dislodgment that is well consistent with the esthetic requirements. The dental surveyor is the fundamental instrument of RPD design and treatment planning and hence its use will

optimize the desired esthetics of the final prosthesis. Surveying permits the location of clasp arms and arrangement of prosthetic artificial teeth to derive maximum esthetics.

To obtain optimum esthetics-firstly the metallic components must be concealed as much as possible by ensuring that the retentive clasp arm is placed in the gingival third of a clinical crown. And secondly, the artificial anterior teeth should be placed in the most natural position possible. Often large undercuts are present, adjacent to teeth bordering the anterior edentulous span. They can be eliminated or decreased in size by altering the tilt of the cast or by selective grinding of the proximal surfaces.⁵

Mouth Preparation:-

After surveying of the diagnostic cast and formulating appropriate treatment plan, the next important step is mouth preparation. Alignments of the proximal tooth surfaces in anterior edentulous spaces often lack parallelism, are bell shaped, tipped, or rotated and may be marked for recontour with the dental surveyor.⁶ The height of contour of proximal tooth surface, that are to be used as the guiding planes may be lowered to permit the rigid portions of the clasp to be placed closer to the gingival margin of the tooth, resulting in a clasp design that is considerably less visible.

Designing of RPD:-

Designing for an RPD should be such that all its components are as inconspicuous as possible to further enhance esthetics. Extra-coronal direct retainers are not pleasing for patients concerned about esthetics. Clasps are the only components which are placed on visible surfaces of the teeth. Following are the esthetic alternatives to conventional clasps to eliminate visible display of metal and improve esthetics.

Equipoise system:-

It is an esthetic retentive concept for distal extension situations. Rests are placed away from edentulous span. Vertical interproximal reduction of 1mm between abutment and adjacent tooth is carried out. It is a lingual back action clasp that is fully reciprocated and extremely esthetic with no facial clasp display.⁷

Spring clasp/ twin clasp:-

It consists of a wire clasp soldered into a channel that is cast in the major connector. As this clasp is flexible, it does not generate as much torque when the distal extension denture base is under occlusal load. The ability to adjust this clasp and its conventional path of insertion provides an excellent design option for retention to an adjacent edentulous segment.⁸

Saddle lock clasp:-

Also called as Hidden clasp. It uses the more pronounced mesial/ distal concave surfaces of the abutment adjacent to the denture saddle. Clasp terminals are positioned at each end of the denture saddle, effectively locking the segment onto the ridge.⁹

Metal free clasps:-

The metal free materials available currently like Acetyl resin, flexible thermoplastic materials are ideal for flexibility and esthetics, thus allowing esthetic functional care in true sense. These may be combined with metal framework to provide esthetics. Masking of clasps with resins/composites by macro/micromechanical retention is another way of improving esthetics.

Rests:-

Use of inconspicuous rests further improves the esthetics of the removable partial denture. The clinician should try to restore the anatomy of the tooth as it existed before the rest seat preparation and minute anatomical observations should be inculcated in the framework design. The cingulum or lingual rest provides the best combination of function and esthetics. They are more acceptable than incisal rests because they can be hidden from view, create less leverage on the abutment teeth by loading at a more apical level and are less bothersome to the tongue.^{10,11}

Major Connector:-

An appropriate major connector design also aids in esthetic RPD especially in the mandibular arch when there are abnormally large interproximal spaces present between the teeth. The lingual bar is a suitable major connector in the presence of diastemas, but only if the distance from free gingival margin to the floor of the mouth permits its use. In

cases where the distance is insufficient, interrupted linguoplate major connector (with step back design) should be used in the presence of diastemas to avoid the display of metal.

Minor Connector:-

Proper location and contour of minor connectors can contribute to the appearance of the removable partial because a slight change in the translucency and colour of the shade guide and complete denture teeth is not easily discernible either to the dentist or the patient while fixed prosthodontics offers the advantage of custom staining of porcelain teeth to the harmony of the adjacent natural teeth.

Denture Base Resin and Flanges:-

The component quite often overlooked in the RPD design is the denture base portion of a partial denture. The labial flange is a significant part, most important when restoring missing anterior teeth. This decision whether or not to incorporate it into the denture should be evaluated carefully. When considerable bone loss is evident, it is wise to incorporate a labial flange to restore the lost tissue contour and at the same time acquire proper lip support thereby also avoiding the placement of teeth more palatally to contact the ridge.

Flange design:-

Anterior flanges ideally should extend to the reflection of the mucosa in the labial sulcus to avoid the horizontal edge of the flange being visible. Since the flange should replace the lost alveolar tissue, it should be no thicker than is necessary. The lateral border of the flange can be extended onto the adjacent root eminence, tapering the flange at that point almost to a knife's edge. The thin resin is almost transparent and allows the color of the mucosa to show through. In addition, the coverage of the papilla immediately mesial to the abutment tooth avoids the dark shadow often created by a vertical edge of a flange in this region.¹²

Conclusion:-

Several options, including the use of RPD, are available for the treatment of partial edentulism. Patient expectations need to be established before treatment, as components of the RPD can be visible and may not be acceptable to the patient. In view of the importance of aesthetics, creative clasp design offers the possibility of reducing the visibility of clasp assemblies, rendering them more acceptable to the patient. This article discusses several simple tips and techniques for providing a highly esthetic removable partial denture that a clinician can use and prescribe it to the laboratory while designing and fabricating it.

References:-

1. Beaumont, AJ. An Overview of Esthetics with RPDs. *Quintessence Int* 2002; 33:747-755.
2. Mazurat, NM, Mazurat, RD. Discuss Before Fabricating: Communicating the Realities of Partial Denture Therapy. Part I: Patient Expectations. *J Can Dent Assoc* 2003; 69:90-94.
3. Budtz-Jørgensen, E, Bochet, G, Grundman, M, Borgis, S. Aesthetic Considerations for the Treatment of Partially Edentulous Patients with Removable Dentures. *Pract Periodont Aesthet Dent* 2000; 12:765-772.
4. Kokich, VO, Kiyak, HA, Shapiro, PA. Comparing the Perception of Dentists and Lay People to Altered Dental Esthetics. *J Esthet Dent* 1999; 11:311-324.
5. Kenneth L. Stewart, Kenneth D. Rudd, William A. Kuebker. *Clinical removable partial prosthodontics*. 2nd ed. St Louis: Mosby; 1983. Pg 237.
6. Grasso JE, Miller EL. *Removable Partial Prosthodontics*. 2nd ed. Baltimore: Williams and Wilkins; 1981. Pg 110.
7. Reagen SE, Rold TM. Practical esthetic options for retention of removable partial dentures: a case report. *Quintessence Int*. 1996; 27(5):333-340.
8. Belles DM. The twin flex clasp: an esthetic alternative. *J Prosthet dent*. 1997; 77: 450-452.
9. M. A. Aras, V. Chitre. Direct retainers: aesthetic solutions in smile zone. *J Indian Prosthodont Soc*. 2005 Mar; 5 (1): 4-9
10. McGivney GP, Carr AB, McCracken WL. *McCracken's Removable Partial Prosthodontics*, 10th ed. St. Louis: Elsevier Mosby; 2000. Pg 88.
11. Stratton RJ, Wiebelt FJ. *An atlas of removable partial denture design*. Chicago, Illinois: Quintessence Publishing Co; 1988. Pg 88.
12. Smith BJ. Esthetic factors in removable partial prosthodontics. *Dent Clin North Am*. 1979 Jan; 23(1):53-63.