CASE REPORT

Full Mouth Rehabilitation- A Case Report

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ABSTRACT: Human beings are generally blessed in most instances with an excellent dentition. The facial esthetics and harmony in a way is only dependent on this dentition. However most of the people in their later life lose some or all the teeth, due to disease and / or their habits, where a Rehabilitative Prosthodontic management is considered challenging and result oriented. Discussed here is a case of worn out dentition rehabilitated using fixed prosthesis.

Key words: *Full mouth rehabilitation, bite raising, collapsed VD.*

Rehabilitative and cosmetic dentistry has created new dimensions in providing esthetic and functional rehabilitation for patients previously viewed with trepidation. Since esthetic demands as well as awareness of patients have increased over the period of years, it becomes imperative for the clinicians to evolve better treatment modalities to deliver high standards of therapy. It is however important to understand that function will always transcend over form & aesthetics in the final consideration during oral rehabilitation procedures. Occlusion is another grey area which needs to be addressed with a lot of respect to achieve harmonious results. A preconceived notion of the desired outcome of the treatment often charts out a proper protocol during rehabilitation. Severe tooth wear is frequently multifactorial and variable.[1-3]

Successful management is a subject of interest in dentistry. A critical aspect is to determine the occlusal vertical dimension (OVD) and a systematic approach that can lead to a predictable and favorable treatment prognosis. Management of patients with worn dentition is complex and difficult.[4,5]

CASE REPORT

A 60 year old male came to the office with primary complaint of pain & abscess with the upper right central, for which a various modes of home remedies had been tried, without success.

The patient was a complete dental phobic whose approach towards dentistry primarily was "treat only if it bothers". He had every conceivable habit/vice which would eventually be detrimental towards a final oral rehabilitation procedure, hence prior to even charting the treatment plans & modalities, it was made abundantly clear that either the habits had to be discontinued or the treatment. To allay fears and prejudices towards treatment, the primary approach initially was to relieve the presenting chief complaint, i.e. the apical abscess with #11, which was the primary distress point.

Initial oral examination revealed teeth with gross attrition resulting in a loss of vertical dimension, thus making the mandible prognathic, and resulting in an edge to edge bite in the anteriors. Upper left lateral was missing /extracted and the history regarding loss of the tooth was very fuzzy. Cervical erosions were present with varying degrees on almost every tooth, indicative of a traumatic occlusal contact between the arches, due to a para functional habit. The patient was not really aware of the presence of such an aberration. Lower anteriors presented a parulis on the labial aspect of # 41, 42, due to pulpal exposure, and subsequent necrosis, by way of attrition. (Fig-1) Surprisingly enough, the periodontal condition was remarkably good, in the wake of the habits presented.

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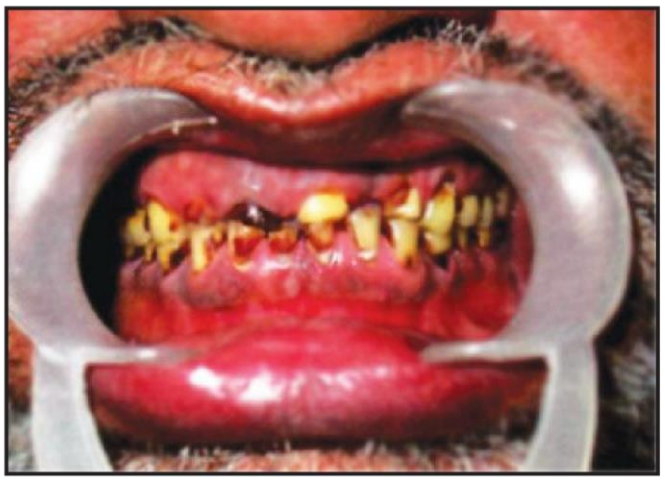

Fig 1: Pre treatment

Fig 2: Post treatment - Final Restoration

OPG studies & periodontal probing revealed adequate bone height, no pockets, although a certain modicum of vertical bone loss was expected due to the para functional habit.

As mentioned earlier, to induce confidence building measures towards the proposed treatment, endodontic treatment for the non vital # 11 was carried out. As a resultant factor, great amount of fear was allayed for the future treatment. A point must be made here that as clinicians, we often have to double up as psychologists too, in the best interests of the patient.

A proposed treatment schedule was charted for the patient, which was broken into four components:

- Diagnostic
- Reparative
- Rehabilitative
- Follow up and prognosis

The diagnostic aspect involved study models, photographs (pre-operative), and routine radiographs, with endo and perio chartings. The emphasis here has to lie on the pre operative photographs which not only double up as records, but also act as an educational & motivational tool for the person undergoing the treatment, as well as for the subsequent therapies planned. Pre operative hematological, hepatic & renal profiles were within normal limits.[16-8]

Reparative aspect of therapy was initiated with the endodontic procedure for the non vital #11, and progressed further to all other non vital teeth, mainly the lower anterior's, and Teeth # 12, 21 (upper right lateral, upper left central). In conjunction with the endodontic treatment, thorough periodontal therapies of prophylaxis & flap less curettage was done to remove traces of gingival inflammation and to re-establish a physiologic biologic width to enable proper esthetic reconstruction.

With progressive deprogramming, a bite raising appliance was designed to raise the vertical dimension by a minimum of 4 mm, to ensure a proper overbite. The bite transfer was registered in Aluwax, to ensure minimal distortion in transfer of the record from the clinic to the laboratory. The patient was instructed on the use of the bite raising appliance with a view to establish the far reaching effect of the loading on the TMJ. The appliance designed was of hard clear acrylic, for the anterior segment, leaving the posteriors out of contact, & eliminating the canine rise, whatever was left of the same. The appliance doubled as a weak version of the Nti-Tss appliance, and to an extent helped reduce the habit of bruxing.

A minimum time frame of 8 months was scheduled for use of the orthotic appliance to allow stabilization of the TMJ to the demands of a raised occlusal table.

On the completion of the time frame, and with no untoward symptoms, the compromised crown ratio of the upper centrals, and upper right lateral was augmented using a Fiber post and composite core. The fiber posts were bonded with resin cement. In view of the fact that the patient was a heavy smoker and the dietary demands on occlusion were high, it was decided to do a full arch rehabilitation with conventional ceramic fused to metals. Although ideally an entire arch should be rehabilitated at a time, the patient was unable to cope with the physical demand of an entire arch preparation & temporization at one stage, thus the preparations were done in a segmental

fashion, upper and lower posteriors progressing to the anteriors. With every set of preparations, two sets of temporaries were planned, one which was fabricated immediate chair side and another set which were lab processed with heat cured resins. All temporaries were seated with non eugenol based cement. To ensure correct inter arch records and approximation, since the bite was being elevated, all inter arch transfers were carried out with the UTS face bow (Ivoclar Vivadent), which were eventually transferred to a Stratos 300 articulator (Ivoclar Vivadent)

Every set of final prosthesis were checked from the metal casting fit and margins, progressing to the bisque trials & final glazed PFM fits prior to final cementation. No compromise is acceptable at these levels, considering the expense, and time involved in the procedures of rehabilitation. A reduced cuspal height was maintained, including a non aggressive Curve of Wilson, to negate the demands on the prosthesis during lateral excursions, thus preventing any damage to the ceramic, or the underlying tooth. A steep cuspal incline would also mean a sharper and defined overbite, which was to be avoided in the wake of the fact that the bite was already raised to its limit.

The lower posterior crowns (molars) were designed with a circumferential metal margin to assist in maintenance of hygiene at the cervical margins. All the crowns were cemented using a resin modified glass ionomer (Fuji Cem, GC Asia). Gingival colored ceramic was used to cover up the gingival- bony resorption in the upper left central/ lateral pontic segment. A thorough check of the margin placement was carried out pre & post cementation, in order to avoid any impingement on the biologic width. Occlusal interferences were eliminated in the protrusive & excursive movements, to stabilize the occlusion. A night guard designed with soft vinyl tray material was designed for the lower anteriors to keep the superstructure off para functional contacts at night (Fig-2).

POST TREATMENT FOLLOW UP

As Shakespeare has mentioned "The best laid plans of mice & men, gang aft awry", similarly the best intentions & modalities of therapy, are far from being infallible. The axiom of "fore warned is fore armed" is of vital consequence in such situations. Despite being impressed on the importance of the use of the night guard, the patient neglected the use of the same, resulting in fracture of the fiber post and core of tooth # 12, & debonding of the post of # 11. This was due to the strong canine interference from the lower canine in a para functional movement. An attempt to retrieve the separated post of # 12 resulted in a lateral root perforation, forcing the extraction of the tooth. Tooth # 11 was re engineered to receive a tapered DT light post which was again bonded with Panavia and restructured to form a supporting abutment for fresh porcelain fused to metal bridgework spanning from tooth # 13 to #11, replacing # 12 with a pontic.

Such pitfalls and complications need to be accounted for during the treatment planning phase, to rule out the eventuality of dealing with an anguished patient.

A follow up protocol was established with routine checks every quarter, & written instructions on hygiene maintenance were given.

CONCLUSION

Taking all factors into consideration and despite the intricacies and time involved in a rehabilitation procedure (current case took 12 months to completion), oral rehabilitation remains by far the most satisfying & rewarding treatment modality for the clinician as well as the patient. Emphasis however must be laid on a sound understanding of the stomatognathic system, and future ramifications during the treatment phase. A competent laboratory backup with sound prosthodontic knowledge & application is imperative in such case designs & success. Honest appraisals of the process is called for to prevent any ambiguity with the patient, in event of a complication arising. This truly defines the wherewithal of the profession, a comprehensive level of care delivered, and not merely addressing the chief complaint.

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