



Review Article

Post insertion problems in complete denture: A review

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ABSTRACT

Removable complete denture till date exists as one of the treatment modality of choice to the edentulous patients. Complaints that are associated after delivery of complete denture is more of actual type and very less frequent of psychological type. In most of the cases education to the patient prior to the start of the procedure will help the clinician as well as the patient to understand the limitations associated with the use of complete denture. The most important thing is to motivate the patient to overcome these limitations.

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1. Introduction

Fabrication of complete denture is totally dependent over psychological and biological interplay between the patient and the dentist. Till date removable dentures plays an important role in the majority of the people of our country and thus one of the irreplaceable treatment option, because not every patient is financially sound that he or she will go for implants. The basic necessity of the patient for a complete denture is mastication, esthetics, phonetics and comfort while using the removable prosthesis. Although the complete dentures are very much compatible with the oral structures, but this requires a little bit time for tissue conditioning. Different authors classified the “post insertion denture problems”.

1.1. According to heartwell and rahn.¹

1. Incompatibility with the surrounding oral environment,
2. Problems related to mastication,
3. Disharmony with functions like speech, respiration and deglutition,
4. Dissatisfaction with aesthetics and deterioration of soft tissues or bony support.

1.2. According to winkler²

1. Tissue irritation and ulceration.
2. Defective speech.
3. Inability to eat, due to rough surface of the denture to tongue contact.
4. Faulty aesthetics.

1.3. According to morstad and petersen³

1. Comfort.

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2. Function.
3. Aesthetics and phonetics.

1.4. According to sharry⁴

1. Common complaints.
2. Uncommon complaints.

Once the problem associated with wearing of denture become evident, should be treated in a logical manner and should be treated satisfactory in a systematic way. Treatment should be started with adequate history taking along with careful examination of the oral cavity so that accurate diagnosis of the treatment should be made and based on the accurate diagnosis, the treatment plan should be made and should be follow appropriately.^{5,6}

1.5. Post insertion denture problems

1. Looseness or instability
2. Lower rises when mouth is opened
3. Sore spots
4. Gagging
5. Feeling of space in upper denture
6. Phonetic problems
7. Can't eat most foods/ masticatory insufficiency
8. Loss of taste
9. Clicking while eating or talking
10. Tenderness when swallowing
11. Food under dentures
12. Saliva under dentures
13. Dislodgement when drinking
14. Drooling at corners of mouth
15. Excessive bulk
16. Cheek, lip, or tongue biting
17. Halitosis
18. Dry mouth (Xerostomia)
19. Excessive salivation
20. Peculiar tastes
21. TMJ problems
22. Burning sensation

1.6. Problems associated with maxillary denture

1.6.1. Maxillary denture dislodges, while performing some function, due to

1. Extension in the hamular notch area.
2. Inadequate relief to the frenum attachment.
3. Excessive thick denture bases over the distobuccal alveolar tubercle area leaving insufficient space for the forward and medial movement of the anterior border of the coronoid process.
4. When the anterior maxillary teeth being placed very much far in the anterior direction.
5. When the maxillary posterior teeth being placed very much far in the buccal direction.

6. Placement of posterior palatal seal very much far in the superior direction, that result in displacement of soft tissue, which result in dislodgement of the maxillary denture.
7. Occlusal disharmony.

1.7. Dislodgement of maxillary denture, when jaws are at rest

1. Underfilled buccal vestibule.
2. No border seal present.
3. Excessive formation of saliva.
4. Xerostomia.

The consistency of saliva is usually involved when, maxillary denture slowly looses its retention and if contraction occur at modiolous, dislodgement of denture occurs, if the flanges of the denture were not contoured properly.

1.8. Upper drops while talking or laughing:

1. Inadequate posterior palatal seal
2. Poor peripheral seal
3. Occlusion not balanced

1.9. Upper tips on incisal pressure

1. Pendulous tissue present over the ridge
2. Insufficient posterior palatal seal present or short posterior border

1.10. Problems with mandibular denture

1.10.1. Dislodgement during function

1. Extending in the lateral direction beyond the external oblique line
2. Over extension of the lingual flange.
3. Placing the occlusal plane too high, causing dislodgement when the tongue tries to handle the bolus of food.
4. Improper contour of the polished surface

1.11. Lower denture unseated during moderate tongue movements

1. Poor border seal.
2. Lingual flange over-extended.
3. Clearance for lingual frenum.
4. Occlusion not balanced.

1.12. Sore spots

One of the most common complaint, usually associated with use of new denture.

1.12.1. This occur due to

1. Inadequate coverage of the edentulous ridge with the denture
2. Over extended flanges in the vestibular region
3. Excessive vertical dimension of occlusion, results in overall redness on the edentulous ridge
4. Presence of sharp bony projections, from the edentulous ridge
5. Presence of thin atrophic mucosa over the edentulous ridge
6. In case tori is present either in the maxillary or in the mandibular region and is un relieved.
7. Unfavorable patient habits like clenching of teeth, if patient is a heavy bruxer, tobacco chewer.
8. Local infection bacterial of fungal.

Treatment modality will stick to the underlying cause i.e. the denture base should cover the entire edentulous ridge, over extension of the denture base should be reduced and should be smooth, adequate vertical dimension not excessive, sharp bony projections should be smoothed, tori should be relieved, local infection should be treated with appropriate medicine, started with discontinuing to wear the denture for atleast 24 – 48 hours.⁷

1.13. Gagging

1.13.1. Gagging can be classified as two types

1. Psychogenic:- which starts in the patients mind itself, without any initiation and is very much difficult to treat.
2. Somatogenic:- it has its initiation from the body i.e. denture or any dental precedure, and it can be treatable.
3. Dental reason:- over extended denture base in posterior palatal seal area, poor occlusion, lack of retention, excessive vertical dimension.⁸

1.14. Treatment

1. Determination the cause when possible.
2. Remove all biological and mechanical factors that may contribute to the problem.
3. Prescribe a combination of hyoscine, hyoscyamine and atropine with a sedative during the initial period of denture use.
4. Acupressure.
5. Consider referring the patient for psychiatric help.

1.15. Feeling of space under maxillary denture

Might be due to shrinkage of the denture resin, due to processing error and if there is any history or anterior traumatic occlusion, which result in parasthesia of naso platine nerve.

1.16. Problems related to phonetics

When patient is having problem in speaking, may be a result from excessive vertical dimension of occlusion, too narrow air space on the anterior part of the palate, too broad air space on the anterior part of the palate, when upper anterior teeth placed too far lingually, when there is insufficient support to the lips provided, when there is improper vertical positioning of maxillary anterior teeth, when maxillary anteriors set too long or too far down, when maxillary anteriors set too short or too high up, when there is improper anteroposterior positioning of maxillary anterior teeth.

1.16.1. Treatment

Increase the passage of air (slowly) by removing some of the resin in increments behind the anterior teeth. If no improvement, try flowing some red carding wax in 1 mm increments, over the anterior and lateral palate to insure tongue contact.

If the air channel is blocked there may be a "shushing" or lipping sound. This is may be due to an excessive V.D.O.

1.16.2. Solution

Before considering a remake at a reduced V.D.O., increase the size of the channel by thinning the anterior portion of the palate.

1.17. Inability to eat food

Some of the edentulous patients come with a problem, that they are not been able to eat food with there complete denture. This could be due to poor muscular control, could be the one reason that patient wasn't able to chew/masticate the food. Other reason could be that the patient expectations were too high with the prosthesis delivered, that he/she want to eat every food that once they enjoyed when they have natural teeth.

1.18. Treatment

1. Psychological boost up to the patient.
2. Dentist can change the occlusal scheme, can go for lingualized occlusion.
3. Can use lingual bladed teeth.⁹

1.19. Taste loss

Due to atrophy of taste buds in the old age, patient might suffer from taste loss sensation. And in most of the cases it is psychological.¹⁰

1.20. Clicking sound while eating food

1. Over extended complete denture.
2. Premature contacts.
3. Excessive vertical dimension of occlusion.

1.21. Treatment

1. Clinical remount should be done, with occlusal equilibration.
2. Relining or rebasing, in case the fit of the denture is not appropriate.

1.22. Pain during swallowing

Mostly due to over extended disto lingual complete denture flange. This over extension produces slight to moderate sensation of pain during swallowing. It should be corrected by reducing the over extended denture flange with the use of disclosing agent and after than smoothed the denture flange.

1.23. Drooling of saliva at the corner of the mouth

1. Usually seen in patients with poor muscular control
2. When there is closed vertical dimension of occlusion
3. In cases of hypersalivation

Treatment modality should be to treat the under line cause, if this occurs due to decreased vertical dimension of occlusion, new denture should be made with correct vertical dimension and an other attempt should be made to control the drooling of saliva at the corner of the mouth by making the denture flange a bit thicker at the modiolous area.¹¹

1.24. Cheek biting, lip biting or tongue biting

The most common cause of cheek biting is due to presence of inadequate overjet between the maxillary and mandibular anterior teeth. It can be corrected by increasing the over jet by reducing the buccal surface of lower posterior teeth. Cheek biting is also due to loss of vertical dimension, because of this cheeks tend to occlude between the occlusal surface of the denture.¹¹ Tongue biting can be treated by reducing the palatal surface of maxillary posterior teeth, mostly the maxillary molars. Lip biting is mostly due to poor neuromuscular control in the old patients.

1.25. Halitosis

Usually associated with the bad oral hygiene when patient is not cleaning his/her denture for long period of time may lead to bad breath or it may be due to medically compromised condition.

1.26. Xerostomia

Most of the elderly patients are on multiple medication for systemic diseases, and many of these drugs are capable of causing “xerostomia”, which has adverse effects on the tolerability of complete denture.¹² These type of patients have problem/difficulty in masticating, swallowing of food. These patients are advised to drink water in between the

meals, and should have plenty intake of water or water substitute. The use of artificial saliva or mouth rinses may be helpful to the patients suffering from condition of xerostomia.¹³ One can also use a reservoir at palatal side which is filled with artificial saliva, surely overcome the quality of life of xerostomic patient.¹⁴ Sialogogues are the drug of choice in treating patient suffering from dry mouth condition, they stimulate the flow of saliva without affecting its ptyalin content. The main cause of dry mouth condition in old age patient are, some drugs such as antidepressants, geriatric degeneration, deficiency of vitamin A, chronic renal disease, and psychic tension.¹⁵

1.27. Excessive salivation

In most of the cases, when patient start wearing denture for the very first time, reports problem of excessive salivation and this problem resolves with time as the oral structures become habitual to the denture. And secondly due to psychological tension.

1.28. Temporomandibular jaw problems

They occur mostly due to spasm of muscles of mastication, or injury to the muscles or to the surrounding structure. These types of problems usually seen in patients who were long term wearers of complete denture, that too with much amount of loss of vertical dimension of occlusion. If this problem not treated at time will lead to some other serious complications like referred pain to ear, tmj, muscles of mastication, clicking sound in tmj or crepitus, tinnitus in ear, pain during opening or closing of the jaw, midline deviation/ shift during opening.

1.29. Treatment

Primary goal of treatment is to treat the underlying cause of the problem. If related to vertical dimension, new set of complete denture with correct vertical dimension should be made again, patient should remain on soft diet for a specific time period, hot packs are advised over the area where the pain is persistent, and muscle relaxants should be advised to the patient.

1.30. Burning sensation

Most commonly due to ill fitted denture, poor denture occlusion, due to menopause in females. Treatment modality will stick to the underlying cause, patient is advised not to wear the denture for 2-5 days at least, do warm saline rinses two to three times a day, application of oral medication in case of candida infection or a new set of complete dentures are advised after the infection subsides. And if the burning sensation is due to compression of nerve, oral surgical procedure is required.

2. Conclusion

A thorough knowledge of different factors required for the fabrication of complete denture is must before entering the post insertion checkup. A patient should always be recalled so that the remaining complaints can be eliminated.

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4. Conflict of Interest

The authors declare they have no conflict of interest.

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