How to Cite:
Singla, L., Queen, A., & Kumar, M. S. (2021). Xerostomia and prosthodontic conduct. *International Journal of Health Sciences*, *5*(S1), 375–378.
https://doi.org/10.53730/ijhs.v5nS1.5668

Xerostomia and prosthodontic conduct

Lovedeep Singla
PG student 1st year, Dept. of Prosthodontics and Crown & Bridge, Desh Bhagat Dental College And Hospital, Mandi Gobindgarh
Email: lsingla51@gmail.com

Archana Queen
PG student 1st year, Dept. of Prosthodontics and Crown & Bridge, Desh Bhagat Dental College And Hospital, Mandi Gobindgarh

Manmohit Singh Kumar
Professor, Dept. of Prosthodontics and Crown & Bridge, Desh Bhagat Dental College And Hospital, Mandi Gobindgarh

***Abstract*---**Xerostomia or dry mouth is a condition frequently seen in dental practice. The elderly people are at greater risk because they undergo medications, systemic diseases or various radiotherapy of the head and neck region. Patient complains of problems in mastication, phonetics, deglutition and in wearing dentures. Patients are at increased risk of developing dental caries usually multiple. Treatment may include the review of the current prescription drug regimen, ongoing dental care, caries prevention, use of salivary substitutes, salivary stimulants, salivary reservoirs and salivary sensors. A thorough clinical examination by the clinician is important for diagnosis, management, treatment and evaluation of the xerostomia patient.

***Keywords*---**xerostomia, radiotherapy, dry mouth, dental practice.

Introduction

Xerostomia is a condition associated with decrease in the amount of saliva produced. This can have a deleterious effect on many aspects of oral function and general well being of the patient. A significant decline in quality of life can been seen due to reduction in the taste sensation and impaired chewing ability. Saliva is one of the most versatile, multifunctional medium of the oral cavity. Flow rate less than 0.1ml per minute is considered abnormal, hence “Dry Mouth” or “XEROSTOMIA”.

***Corresponding author**: Singla, L.; Email: lsingla51@gmail.com*
Manuscript submitted: 18 April 2021, Manuscript revised: 9 June 2021, Accepted for publication: 5 July 2021

Etiology of xerostomia

Xerostomia is a common complaint associated with various factors including systemic illness such as diabetes mellitus, amyloidosis, sarcodoisis; auto-immune diseases like Sjogren's Syndrome; Immune system dysfunction- AIDS; irradiation of head and neck region; chemotherapy; tumours of salivary glands; various medications (antihistamines, antidepressants, anti-anxiety, sedatives, anti-parkinsonism drugs, anti-psychotics.

Diagnosis

The diagnosis is mostly concerned with history and intra oral examination of the patient seeking medical care. A patient's drug regimen should be reviewed on regular basis to identify drugs that may contribute to the patient's xerogenic symptoms.

SYMPTOMS
1) Dry mouth
2) Difficulty in speaking, swallowing
3) Intolerance to spicy, acidic and crunchy food.
4) Buccal mucosa may become dry, sticky or red.
5) No pooling of saliva.
6) Presence of multiple caries.

The 2 major diagnostic aids used are

1) Lip stick Sign: In female patients, the lipstick remains adhered to the anterior teeth due to lack of saliva and its cleansing action.
2) Mouth Mirror test: If the mouth mirror is found to stick when brought in contact with buccal mucosa or tongue, it indicates xerostomia or dry mouth.

Treatment Modalities

The various treatment aspects include

- Maintenance of the oral hygiene.
- Symptomatic treatment.
- Addressing of the underlying causes.
- Stimulation of the gland function.
- Use of Salivary substitutes.
- Encouragement for oral hydration.

- Stimulation of salivary glands can be done by the use of various Sialogogues such as Cevimeline available in the market as 'Evoxac' and Pilocarpine which is available as 'Salagen'. The latter is available in mouthwash form (Dosage: 5ml per dose 4 times/day) and tablet form (Dosage: 5mg per dose 3 times/day).
- Salivary substitutes include:

- Aquoral- An oral spray that is used three to four times daily.
- Biotène Oral balance moisturizing spray
- Oasis mouth moisturizing spray
- NeutraSal- A dissolving powder which is mixed with water.
- XyliMelts- Discs that stick to teeth or gums to relieve dry mouth.

Prosthodontic management

Management in Complete denture

- Aims at optimizing retention and stability.
- Use of denture adhesives.
- Frequent recall of the patient is must as they are more susceptible to secondary infections like Candida infection.
- Fabrication of Intraoral Artificial Salivary Reservoirs dentures.
- Fabrication of Metal Base Dentures.

Intraoral Artificial Salivary Reservoirs dentures

- A salivary reservoir is incorporated into denture that provide slow, sustained and continuous release of artificial salivary substitute.
- Patient is instructed and educated to refill the reservoir.
- Proper oral and denture care is recommended.

Steps of fabricating salivary reservoir denture

- After the try-in setup is done, 2mm thick modelling wax is placed on palatal wax used in arranging the denture teeth.
- A portion of the palatal wax is scooped out leaving a rim of wax with reservoir in the centre.
- This assembly is then processed with the heat cure acrylic.
- After deflasking and polishing procedures are completed, wax is poured into the reservoir space.
- A layer of Separating media is applied and then a second layer of wax is placed over the previously added wax to form the lid.
- This second layer is also processed with heat cure acrylic resin.
- Dewaxing of the previous layer is done and the lid so formed is permanently attached to the denture using autopolymerising acrylic resin.
- A final polish is given to the assembly
- Two inlet holes are given over the reservoir lid for injecting the salivary substitute and also for the slow, sustained release of it.

Metal base denture

- The looped metal design helps in reducing:
  - Burning sensation
  - Allergic reaction
  - Eliminate microbial colonies
  - Contact sensitivity to acrylics

Management in Fixed partial denture

- In fixed partial denture patients, the main aim is the maintenance of the oral hygiene so Supragingival tooth preparation is recommended.
- Dental flossing is one way out that can aid in maintaining the oral hygiene. Water floss come under the recent advancements of dental floss.
- Easily cleansable pontics and connectors should be preferred.

Management In removable partial dentures is achieved by

- Minimal tissue coverage.
- Avoiding Gingival approaching clasps.
- Metal denture bases to be used.

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