

MEDICINES AND DRY MOUTH

A sensation of dry mouth or xerostomia is a very common problem in older people. Many medicines particularly those with anticholinergic effects can cause or exacerbate dry mouth. Dry mouth can cause significant morbidity and impair quality of life. It is estimated up to 50% of people living in residential aged care will experience a dry mouth due to disease of the salivary glands, radiation therapy or medications. Data from an estimated 50,000 DVA patients shows nearly three-quarters were dispensed one medicine that can cause a dry mouth, with nearly one-quarter receiving two medicines that can cause a dry mouth. Medication reviews can identify medicines likely to cause dry mouth and provide recommendations for alternatives or cessation. Artificial saliva products can be considered if medicines causing dry mouth cannot be eliminated. Chewing gum can increase saliva production and may be preferable to saliva substitutes.

Symptoms

Saliva plays a key role in oral health. Symptoms of dry mouth include an increased need to keep the mouth moist with water, as well as difficulty with speech, chewing and swallowing dry foods. Problems associated with eating can lead to weight loss and malnutrition. Prolonged dry mouth leads to dental caries, gum disease, oral mucosal soreness, oral thrush (candidiasis) and difficulties with dentures. If left untreated, dry mouth can lead to:

- dental pain and loss of teeth
- difficulty with chewing, swallowing and speech
- dental decay and caries
- periodontal and mucosal disease
- oral infections, e.g. candidiasis, gingivitis
- difficulty wearing dentures, denture sores
- oral discomfort
- halitosis
- altered or reduced taste sensation
- dry and cracked lips
- burning sensation of the mouth and tongue
- disturbed sleep
- pharyngitis and laryngitis
- a loss of the buffering action that helps to prevent acid reflux and oesophagitis

Conditions associated with dry mouth

Diseases associated with dry mouth include autoimmune conditions (Sjögren syndrome, rheumatoid arthritis, systemic lupus erythematosus), diabetes, hypothyroidism, Parkinson's disease, anxiety and depression, chronic renal failure, hepatitis C and radiation therapy.

Medicines with strong evidence

Medicines with strong evidence for causing dry mouth include for functional gastrointestinal disorders, anti-emetics and anti-nauseants, anti-obesity preparations, anti-hypertensives, diuretics, beta-blocking agents, calcium channel blockers, urologicals, anti-neoplastic agents, muscle relaxants, drugs for the treatment of bone diseases, analgesics, anti-epileptics, anti-Parkinson drugs, psycholeptics, psychoanaleptics, other nervous system drugs, anti-muscarinic drugs for obstructive airway diseases, anti-histamines for systemic use, and ophthalmologicals. Some common medicines prescribed for residents in aged care facilities with strong evidence of interference with salivary gland function causing dry mouth include:

- Asthma and COPD treatment
 - Tiotropium inhalation
- Anticholinergics for overactive bladder or urinary incontinence
 - Oxybutynin
 - Tolterodine
 - Solifenacin
- Antipsychotics
 - Quetiapine
 - Olanzapine
 - Clozapine
 - Risperidone
- Antidepressants
 - Amitriptyline
 - Citalopram
 - Duloxetine
 - Escitalopram
 - Fluoxetine
 - Paroxetine
 - Sertraline
 - Venlafaxine

continued over

- Calcium channel blockers
 - Verapamil
- Diuretics
 - Furosemide
- Gabapentinoids
 - Gabapentin
- Glaucoma treatment
 - Timolol eye drops
 - Brimonidine eye drops
- Opioids
 - Buprenorphine
- Smoking cessation
 - Bupropion

Excessive secretion of saliva or sialorrhea may be experienced together with a subjective feeling of dry mouth. Sialorrhea is an adverse effect of clozapine, quetiapine, risperidone, olanzapine, and venlafaxine. Altered sensation of taste or dysgeusia has been reported with amitriptyline, buprenorphine, fluoxetine, quetiapine, and sertraline.

Medicines with moderate evidence

Medications reported to induce xerostomia, salivary gland hypofunction, or sialorrhea with moderate level of evidence include:

- ACE inhibitors
 - Enalapril
 - Lisinopril
- Antiarrhythmics
 - Mexiletine
- Anticholinergics for overactive bladder or urinary incontinence
 - Darifenacin
- Antidepressants
 - Desipramine
 - Desvenlafaxine
 - Dosulepin
 - Doxepin
- Antihistamines
 - Azelastine
 - Cetirizine
- Desloratadine
- Antipsychotics
 - Amisulpride
 - Asenapine
 - Haloperidol
- Beta-blockers
 - Atenolol
 - Metoprolol
- Gabapentinoids
 - Pregabalin

- Hypnotic
 - Zopiclone
- Opioids
 - Morphine
 - Tapentadol
 - Tramadol
- Smoking cessation treatment
 - Nicotine

Management strategies

In many cases medicines causing problems with dry mouth can be replaced by others within the same class less likely to cause the adverse effect. For example, darifenacin or solifenacin have fewer anticholinergic effects than oxybutynin. Oxybutynin patches are also less likely to cause a dry mouth than oral tablets. Gabapentin could be replaced with pregabalin for the management of neuropathic pain. Nortriptyline has fewer anticholinergic effects compared to other tricyclic antidepressants (TCAs) such as amitriptyline. When appropriate, medicines can be administered earlier in the day rather than at night when saliva production is at its lowest. Dividing a once-daily dose may be appropriate to avoid a single large dose. Good technique with inhaled medicines such as tiotropium (Spiriva, Spiolto) for the management of asthma or COPD will minimise systemic absorption and optimise deposition in the lungs. Rinsing the mouth after use should be routinely done.

Summary

Many medicines acting on almost all systems of the body may also cause side effects related to the salivary system. Dry mouth can interfere with oral health, function and quality of life. Anticholinergic drugs are the most common cause of dry mouth. Regular dental review is important to ensure good oral hygiene is maintained, and caries and fungal infections controlled. Regular medication reviews can identify medicines causing dry mouth and recommendation alternate medicines or guidance on deprescribing.

References

Drugs R D 2017;17:1–28.

Veterans' MATES Therapeutic Topic: Reducing the impact of medicine-induced dry mouth

<https://www.veteransmates.net.au/topic-53-therapeutic-brief>

The Webstercare Consultant Pharmacist Continuing Education Service come to you each month from your pharmacist. If you would like extra copies please visit www.webstercare.com.au or ask your pharmacist.