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Oral Health Considerations Associated with Mouth Cancer

Epidemiology, risk factors, impact, and outcomes

Mouth cancer is characterised by malignant neoplasia of various regions in the oral cavity[1]

In 2020, mouth cancer affected 377,713 individuals worldwide and led to 177,757 mortalities[1]

Higher prevalence in males compared to females: 5.8 versus 2.3 per 1,000 individuals[1]

Higher prevalence in Southeast Asian countries and Pacific regions, which can be attributed to the habit of chewing tobacco and betel nut[1]

Over 90% of mouth cancers originate from squamous cells, categorised as oral cavity squamous cell carcinomas[1]

Risk factors[1,2]

Tobacco and alcohol (increased risk of their consumption together)

Human papillomavirus infection

Genetic factors such as gene and chromosome alterations

Treatment modalities[1,2]

Localised tumours

- Surgery
- Radiotherapy

Advanced disease

- Surgery
- Chemotherapy
- Radiotherapy
- Combined modalities

Treatment of mouth cancer can lead to unavoidable oral complications that impair patients' normal functions and quality of life[2]

Untreated oral problems can get aggravated following chemotherapy and radiotherapy[2,3]

Dental professionals should educate patients on the effects of cancer therapy on oral health and guide them regarding prophylactic measures[2,3,4]

Preventive treatment can help reduce the need for more advanced dental treatments following cancer treatments[2,4]

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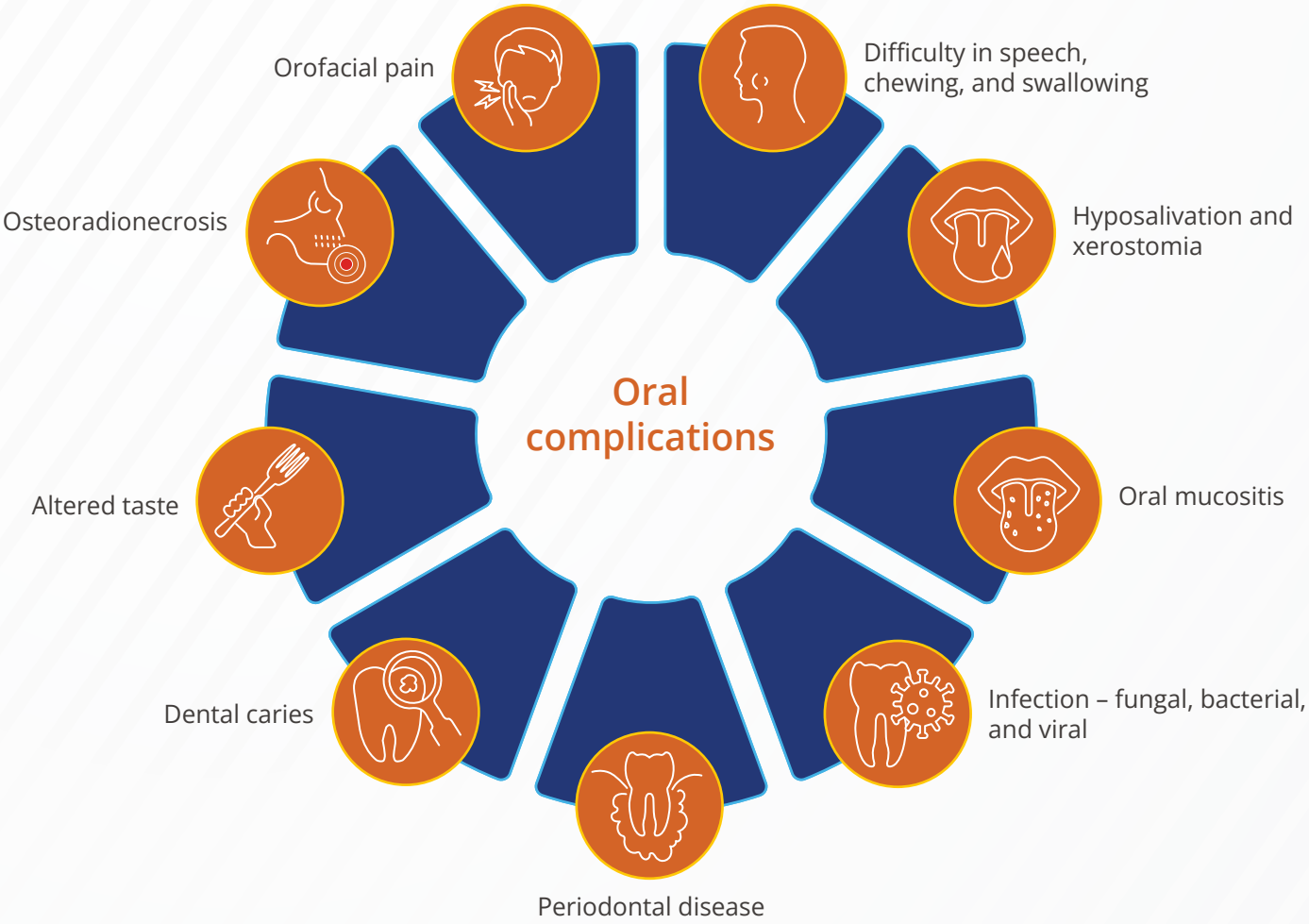
Causes of oral complications following cancer treatments[1,2]

- Decrease in high cellular turnover of the oral mucosa and susceptibility to treatments that arrest cell growth
- Disturbances to the normal oral microbiome
- Trauma to oral tissues due to normal functions of the oral cavity

Types of oral complications[2,3,5]



Poor oral health can increase the severity of treatment-induced oral complications in patients with mouth cancer[2]

Identifying, fixing, and stabilising oral problems prior to cancer treatment can help decrease the magnitude of oral complications post-treatment[2]

Preventive measures that can be adopted by dental professionals[2,3]

- Early detection of mouth cancer
- Assessing periodontal disease status
- Encouraging patients to follow good oral hygiene practices
- Identifying teeth requiring extraction (caries, periapical infection)
- Repair ill-fitting dentures prior to treatment
- Encouraging patients to quit or reduce risky activities such as tobacco and alcohol consumption
- Educating patients about the role of balanced nutrition and hydration on oral health

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Treatment considerations[2]

- Assessing the type and extent of oral problems in relation to the duration of cancer therapy
- Using conservative disease stabilisation techniques such as fluoride treatments and dental sealants wherever possible
- Identifying treatment-emergent problems requiring restorative approaches
- Correlating oral and systemic health

Oral hygiene recommendations and preventive measures[2,3,5,6]

Brushing

- Per dental professional recommendations, brush twice daily
- Use a manual or electric toothbrush
- Oscillating-rotating electric toothbrushes reduce gingivitis and remove plaque better than sonic electric toothbrushes
- Use mildly flavoured fluoride toothpaste, as per dental professional recommendations

Flossing

- Gentle flossing or cleaning with an interdental brush once daily is recommended

Rinsing

Rinse with:

- 0.9% saline
- Sodium bicarbonate solution[2]
- 0.9% saline plus sodium bicarbonate solution

Fluoride treatment (carried out by a dental professional)

It is recommended with:

- 1.1% neutral sodium fluoride gel
- 0.4% stannous fluoride gel

Apply once daily » Brush for 2 to 3 minutes » Expectorate and rinse mouth gently

Antimicrobial rinsing

- Advised for acute mouth disorders and should be used for a limited period of time only
- 0.12% to 0.2% chlorhexidine oral rinse for acute gingival conditions
- 0.5% povidone-iodine to inhibit the growth of infectious microorganisms
- Rinse » Hold for 1–2 minutes » Expectorate » Repeat 2–4 times daily, depending on the severity of the periodontal disease

Management of dentures and orthodontic appliances

- Gently brush dentures twice a day with a soft brush
- Store in an antimicrobial solution between uses
- Remove orthodontic appliances like retainers in case of soreness

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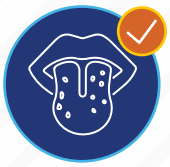
Management of oral complications[2,3,5]



Mucositis

- Bland rinses: 0.9% normal saline and/or sodium bicarbonate solutions
- Mucosal coating agents: antacid and kaolin solutions
- Frequent sips of water or water-soluble lubricating agents, including artificial saliva for xerostomia
- Topical anaesthetics: viscous lidocaine, benzocaine sprays/gels, dyclonine rinses, and diphenhydramine solutions
- Cellulose film-forming agents for covering localised ulcerative lesions
- Systemic analgesics
- Photobiomodulation or Low Level Laser Therapy

Pain

- Topical and systemic analgesics
- Ice application

Infection

- Topical or systemic treatments with antibacterial, antifungal, or antiviral agents depending on the type and severity of the infection

Xerostomia

- Rinse the mouth regularly
- Hydrate frequently
- Avoid foods and drinks with high-sugar content
- Use artificial saliva formulations
- Chew non-sugar gums, lozenges

Osteoradionecrosis

- Avoid using dental prostheses
- Use topical antibiotics and antiseptics
- Consider hyperbaric oxygen therapy

Optimal management of patients undergoing treatment for mouth cancer requires a multidisciplinary team that includes[2,4]:

- Oncologists
- Oncology nurses
- Maxillofacial/head and neck surgeon
- Dental professionals
- Speech therapists
- Dieticians

Key takeaways

- Globally, the incidence of mouth cancer is increasing
- A number of risk factors for mouth cancer are currently known
- The post-treatment 5-year survival from mouth cancer is only 50%
- The treatment of mouth cancer is associated with a significant adverse impact on the quality of life

Maintaining good oral health is essential since it will influence the impact of mouth cancer

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