Case presentations: The pitfalls in diagnosis and management of oral lesions in cancer patients

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## Faculty Disclosure

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Case presentation
- Tonsil cancer + neck metastases
- Unilateral radiation therapy 2 years previously
- Right parotid and submandibular glands within radiation field
Disturbance of oral homeostasis by cancer therapy

- Inadequate oral hygiene
- Salivary gland hypofunction
- Mucosal damage/mucosal diseases
- Soft, high-carbohydrate diet
- Immunosuppression
- Antibiotics
- Other systemic diseases
- Nutritional deficiencies
- Tobacco

Oral infection

Risk of systemic infections
Case presentation

- Tonsil cancer + neck metastases
- Unilateral radiation therapy 2 years previously
- Right parotid and submandibular glands within radiation field
Oral mucositis
Methotrexate
Oral mucositis

Aphthous ulcers, targeted therapies

Aphthous stomatitis, targeted therapies

• Topical glucocorticoid (gel)
  To be applied immediately at the initial symptoms

• Systemic glucocorticoid

Contraindicated with infections
Case presentation

- Tonsil cancer + neck metastases
- Unilateral radiation therapy 2 years previously
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Oral candidosis

*Candida albicans*  
(C. glabrata, C. tropicalis,  
C. krusei and C. dubliniensis)

Erythematous

Pseudomembraneous

Hyperplastic
Candida-associated lesions

Angular cheilitis

Median rhomboid glossitis

Denture stomatitis
Oral candidosis, diagnosis

Subjective symptoms
- Soreness/burning sensation
- Metallic or salty taste
- Xerostomia

Objective clinical signs
- Erythema
- White patches, can be rubbed off
- Hyperplastic
- Angular cheilitis

Paraclinical tests
- Cytosmears, PAS staining (periodic acid shiff)
- Blastospores and hyphae

Lack of clinical response/repeated relapses:
- Swab/culture, species identification and susceptibility testing
Oral candidosis

Eradicate local/systemic predisposing factors

Consider:

– Systemic or topical antimycotics
– Treatment or prevention
– Compliance, administration
– Activity against fungal species/resistance
– Drug interactions
– Availability and costs

Lalla et al. Support Care Cancer 2010
Worthington et al. Cochrane Database Syst Rev 2010
Oral candidosis

Treatment (during cancer therapy)

“Absorbed drugs are more effective than drugs not absorbed from the gastrointestinal tract” (two trials, n=69)

“There is insufficient evidence to claim or refute a benefit for any antifungal agent in treating candidiasis”

Worthington et al. Cochrane Database Syst Rev 2010

Prevention (during cancer therapy)

“Drugs fully absorbed (fluconazole, ketoconazole and itraconazole) and partially absorbed (miconazole and clotrimazole) are effective compared with placebo or no treatment”

“There is no evidence that overall the group of non-absorbed drugs are effective, i.e. nystatin, however, weak evidence that amphotericin B might be of benefit”, seven trials, n=1153

Oral candidosis

Apply institutional/national protocol for prophylaxis/treatment

**Topical antifungals**, prescribe sugarfree
- Nystatin, Clotrimazole, Miconazole

**Systemic antifungals**, tablet or oral suspension
- Fluconazole, Itraconazole, Ketoconazole

Lalla et al. Support Care Cancer 2010
Worthington et al. Cochrane Database Syst Rev 2010

Drug interactions, azoles:
- Everolimus, tacrolimus, sirolimus
- Inhibition of CYP3A4 and P-glucoprotein
- Monitoring and dose reduction needed

Example:
Fluconazole and everolimus, n=12 healthy persons
Significant increase in AUC (15-fold), C_{max} (4-fold), \( t1/2 \) (2-fold)

Kovarik et al. J Clin Pharmacol 2005
Chlorhexidine mouthwash

- Antiseptic (bacteria and fungi)
- Binds to acrylic, epithelial and tooth surfaces
Case presentation
Moderate dose chemotherapy, prostate cancer

Oral pain
Mucositis (lower lip)
Viral infection (tongue)
Fungal infection (corners of the mouth)
Bacterial infection (gingival)
Hyposalivation and xerostomia

Courtesy of Dr. Deborah P. Saunders, Canada
Oral viral infection

Reactivation of latent virus / de novo infection

Herpes simplex virus

- High-dose chemotherapy/haematopoietic stem cell transplant: ~75% recurrence
- Radiation therapy head and neck cancer: ~20% recurrence

Varicella zoster virus

Immunocompromised

- Atypical clinical viral infection presentation
- Acute, painful oral ulcer, unknown cause → viral lab investigation
- Antiviral prophylaxis / immediate systemic antivirals
Case presentation
Moderate dose chemotherapy, prostate cancer

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Courtesy of Dr. Deborah P. Saunders, Canada
Angular cheilitis
Consider fungal or bacterial infection (Staphylococcus aureus)

Samaranayake et al. Periodontology 2009
Conclusions

• A variety of oral complications appear concurrently
• Complicates differential diagnosis and management
  ↓
• Implementation of stringent basic oral care
• Consider treatment/prophylactic antifungals, antivirals or antibacterials
• Interdisciplinary team, including oral health professionals, to work closely with the patient to ensure early diagnosis
• Precaution needed for immunocompromised patients: vague/atypical inflammatory signs
How to Care for Your Mouth During Active Chemotherapy
How to Care for Yourself Before Head and Neck Radiation Begins
How to Care for Yourself After Head and Neck Radiation Begins
How to Care for Yourself During Head and Neck Radiation

https://www.mascc.org/oral-care-education

Thank you!