Dental Oncology

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The Discipline within dentistry which provides general dentistry, oral medicine, oral pathology and maxillofacial prosthetics for the cancer patient.

Pre-therapy Considerations

- EUA prior to treatment
- Allow ample time for healing prior to resections and radiation or chemo
- Evaluate the patients history and ability to perform recommendations
- Communicate with the team for optimal results and rehabilitation

Head and Neck Radiation

- Immediate effects
  - Mucositis
  - Pain
  - Hypoguesia
  - Dysphagia
  - Erythema
Effects of Radiation on Oral Structures

- Most damage occurs to DNA
- The effects of radiation depend upon the level of oxygenation in target tissues
- All cells have varying sensitivity to radiation

Salivary Gland Protective Agent

- Amifostine
  - In some studies has shown modest improvement in subjective symptoms
  - Has significant side effects – hypotension, nausea, and vomiting
  - Expensive
  - Timeliness of administration is crucial

Management of Hyposalivation

- Salivary substitutes and hydration
- Systemic sialogogues
  - pilocarpine
  - cevimeline
Other Problems with Radiation

- Opportunistic Infections such as candid albicans, and viral infections
- Trismus
- Osteoradionecrosis

Osteoradionecrosis

- Delayed healing of the bone following radiation for head and neck cancer
- More commonly affects the mandible
- Lesions involving the cortical bone can lead to fracture and extra-oral fistula

AAOMFS Staging of ORN

- Stage 0 – nonspecific findings (no exposed bone, radiographic change, pain)
- Stage 1- Exposed asymptomatic bone, no evidence of infection
- Stage 2- Exposed bone, erythma, symptomatic (pain etc), evidence of infection
- Stage 3 – Exposed bone, pain and infection, extending beyond alveolar bone (fistula); pathologic fracture possible
Treatment Strategies

- Topical Antiseptics – chlorhexidine
- Antibiotics – PenVk, Clindamycin
- Symptom Management – hyperbaric oxygen, sequestrectomy, vascularized free tissue transfer

Oral Complications Associated with Bisphosphonate Therapy

- What is a bisphosphonate? Drugs widely used in orthopedics and oncology for treatment of osteoporosis, Paget’s disease of the bone, and metastatic lesions
- Potent inhibitors of osteoclast function
- Result in areas of exposed bone and necrosis in patients who have not had radiation therapy to the craniofacial region

- Etiology, optimal management, and long term outcomes are unclear
- Incidence in cancer patients 2.9-11%
- Has not been reported outside of the maxillofacial skeleton
Other Drugs That May Cause Necrosis

- Denosumab
- Bevacizumab
- Sunitinib

What Can the Nurse Do?

- Assess dental history, social habits, and current dental practices
- Evaluate and examine patient
- Educate
- Referral to dentistry

Special Populations

- Pediatric patients
  - Long term side effects of chemotherapy and radiation
  - Allogenic bone marrow transplants
  - Psychosocial aspects of side effects, craniofacial defects, and developmental abnormalities
• Patients with disabilities
  – Access to care
  – Ability to tolerate procedures

Challenges To Obtaining Dental Care
• Urgency
• Availability and willingness of providers with experience in caring for complex cancer patients
• Location of appropriate dental practices
• Willingness of patient to obtain care and seek appropriate treatment
• Financial and insurance issues

Types of Dental Practices
• Private and small group practices
• Dental management group
• Insurer-provider group practice
• Not for profit
• Government agency
• Hybrid
Paying For Dental Care

- Private dental insurance
- Medicare
- Medicaid

Recommendations

- Preventative measures
- Multidisciplinary approach
- Immediate dental care to prevent treatment delays

- Nurses play an important role in educating the patient and family
- The nurse is in a position to advocate for the patient to obtain dental care before, during, and after cancer treatment
Bibliography


