



PALLIATIVE CARE CASE OF THE MONTH

Late Complications of Head and Neck Cancer and Its Treatments

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Case: AF is a 58 y/o man who presented in 2008 with dysphagia and a neck mass. Evaluation revealed a large right tonsillar mass and anterior cervical lymphadenopathy with biopsy confirming squamous cell carcinoma (stage T2N2b). AF was treated with a protocol including concurrent chemotherapy (cisplatin, taxotere and Erbitux) and radiation therapy. He did reasonably well through his treatments, though he did experience significant throat pain and required a feeding tube for a few months due to dysphagia.

AF has remained cancer free over the last five years but continues with ongoing issues resulting from his cancer and its treatments. He continues with some dysphagia especially for meats and dry foods. He experiences a very dry mouth and often awakens throughout the night to drink water. He has had significant dental problems with multiple teeth breaking and recurrent caries. He had an episode of osteoradionecrosis several years ago that was treated with hyperbaric oxygen treatments. He has chronic throat and neck pain. His neck feels stiff, and he can't open his mouth fully with some associated jaw pain. Overall, he feels his quality of life has worsened since undergoing his cancer treatments.

Discussion: Patients treated for head and neck cancer often experience late complications months or even years after completing their treatments. The most common late complications include xerostomia, dental issues including osteoradionecrosis, soft tissue fibrosis, trismus, dysphagia and esophageal toxicity, thyroid disease, and chronic pain. More rarely, patients can experience neurologic complications including myelitis, optic neuropathy and retinopathy and ototoxicity as well as carotid artery disease. Many of these complications persist and can be permanent. **XEROSTOMIA:** Xerostomia is the most common complication in patients treated for head and neck cancer and results from damage to the salivary glands, usually from radiation therapy. The magnitude of the damage is dependent on total radiation dose. Newer radiation techniques can limit the exposure of the salivary glands to radiation which may result in less xerostomia.

Lifestyle changes are an important management strategy. Patients generally find eating moist, softer food is more manageable. Use of a room humidifier can be helpful. Saliva substitutes can be used to wet the oral mucosa. Frequent sips of fluids are usually necessary even through the night which can cause nocturia and urinary frequency. Gustatory stimuli with acidic or bitter substances, hard candies, and chewing gum can stimulate saliva flow. Pilocarpine and cevimeline are pharmacologic agents that target muscarinic receptors and stimulate saliva flow but they have significant side effects, cost and require daily use and life-long therapy. Acupuncture may be helpful if there is some residual salivary gland function.

DENTAL ISSUES: Patients with head and neck cancer may have poor preexisting dental health, and the reduced saliva from their cancer treatments increases the risk of dental caries and decay. These patients require meticulous dental care and often have to visit experienced dentists three to four times per year for cleanings and routine exams. Daily fluoride treatments can be beneficial.

Osteoradionecrosis is defined as exposed, irradiated bone in the absence of recurrent or residual tumor. This complication of radiotherapy results from damage to the vascular supply of irradiated tissues. Osteoradionecrosis can be precipitated by injury or procedures such as infection, dental extraction or surgery and most commonly presents in the mandible with pain, difficulty chewing, trismus, fracture or infection but can also manifest as asymptomatic exposure of bone. Treatment of osteoradionecrosis is complex and best managed by a team of expert clinicians including dentists, oral surgeons and ENT specialists.

SOFT TISSUE FIBROSIS: Both surgery and radiation therapy can cause significant injury to soft tissues of the neck with hardening, edema, and fibrosis of the tissues. Massage, physical therapy, and even botulinum toxin injection can be helpful.

Personal details in the case published have been altered to protect patient privacy.

For palliative care consultations please contact the Palliative Care Program at PUH/MUH, 647-7243, beeper 8511, Shadyside Dept. of Medical Ethics and Palliative Care, beeper 412-647-7243 pager # 8513, Perioperative/ Trauma Pain 647-7243, beeper 7246, UPCI Cancer Pain Service, beeper 644-1724, Interventional Pain 784-4000, Magee Women's Hospital, beeper 412-647-7243 pager #: 8510, VA Palliative Care Program, 688-6178, beeper 296. Hillman Outpatient: 412-692-4724. For ethics consultations at UPMC Presbyterian-Montefiore and Children's page 958-3844. With comments about "Case of the Month" call Dr. Robert Arnold at (412) 692-4834.



(Discussion Continued)

TRISMUS: Patients can end up with the inability to fully open their jaw after treatments for head and neck cancer which can interfere with eating, and talking, and can make adequate oral care difficult. Early treatment is essential to prevent the development of severe, irreversible contractures. Physical therapy and use of passive motion devices can be helpful.

DYSPHAGIA and ESOPHAGEAL TOXICITY:

Dysphagia in this patient population results from direct effects of radiation and surgery as well as from the resulting xerostomia and trismus. Patients require a careful swallow evaluation and treatment by speech pathologists. Patients who develop esophageal strictures can require repeated dilatations which may not be entirely effective.

THYROID DISEASE: Damage to the thyroid gland can occur during radiation to the lower neck resulting in primary hypothyroidism especially in patients undergoing both surgery and XRT. Hypothyroidism tends to appear in the first two years after therapy but can present much later as well. Patients treated for head and neck cancer require screening for thyroid dysfunction followed by thyroid hormone replacement if indicated.

DYSGEUSIA and DYSPHONIA: Patients often experience long-term changes in taste after the treatment of head and neck cancer. Voice changes can occur if the larynx was involved in the cancer or in the area of surgery or irradiation.

Resolution of the case: With the help of his multi-disciplinary medical team, AF has learned to manage with many of the late consequences of his cancer therapy. He uses daily fluoride treatments and visits his dentist regularly for cleanings and interventions. He always keeps a bottle of water with him as well as keeping water on his bedside table at night. He sucks on sugar-free hard candies throughout the day. He has a room humidifier in his bedroom. His PCP closely monitors his thyroid function and thyroid replacement therapy. He has been successful in quitting smoking. While his quality of life is still somewhat impaired by these residual issues, he is grateful to be cancer free.

Summary: Patients with head and neck cancer are at risk for a number of late complications that can adversely impact their quality of life. Some of these can be prevented by measures undertaken during the initial phase of treatment, but many will persist and require ongoing lifestyle modifications and clinical support in an effort to optimize patients' functioning and quality of life.

References:

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