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Review Article

Cancer Survivorship Care in the Head and Neck Patient: Current Practices

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Abstract

The Head and Neck Cancer survivor population has steadily increased due to epidemiologic changes, and with advances in cancer detection and management. The importance of a systematic approach to optimize cancer survivorship care and quality of life cannot be emphasized enough considering the complexity of treatment course and the inter-disciplinary care involved. Survivorship Care Plans, the standards of survivorship care and the management of treatment effects specific to the Head and Neck Cancer survivor are discussed.

Keywords: Head and neck cancer; Survivorship care; Survivorship care plan

Abbreviations

HNC: Head and Neck Cancer; HPV: Human Papilloma Virus; SCP: Survivorship Care Plan; IOM: Institute of Medicine; NCCN: National Comprehensive Cancer Network; PCP: Primary Care Providers; ASCO: American Society of Clinical Oncology; LDCT: Low Dose Computer Tomography; ACS: American Cancer Society; TSH: Thyroid Stimulating Hormone; FoR: Fear of Recurrence

Introduction

Head and Neck Cancer encompasses malignancies that arise from the lining of paranasal sinuses, nasopharynx, oral cavity, pharynx, larynx, skin, and salivary glands, and ranks fifth worldwide in incidence [1]. With advances in detection and treatment of HNC, and epidemiological shifts such as an increased incidence of the highly curable HPV-related tumors, survival rates have improved. Five year survival rates for oral and pharyngeal cancer improved from an estimated 57.7% in 1996 to 64.7% in 2006 [2,3]. Due to the explosion of HPV associated HNC, which presents in younger healthier individuals, survivor demographics are changing as well. This cohort of patients with fewer co-morbidities is expected to experience a more prolonged survivorship course, and present unique challenges of care. Optimization of care coordination and transition is crucial as primary care providers or community otolaryngologists become more involved in long-term survivor care.

Survivorship Care Plans and Guidelines

In 2005, the Institute of Medicine recognized opportunities to improve cancer survivor care. Many cancers survivors are lost to follow-up and opportunities for healthcare intervention thus missed. This is, especially true regarding the long-term sequelae related to cancer treatment and associated health risks. The IOM report thus recommended measures aimed towards raising awareness of cancer survivor needs and providing a comprehensive care summary and follow-up plan for patients completing their primary treatment [4].

Ten years later, Survivorship Care Plan use has yet to become universal. In 2011 and 2012, only 43 to 59% of National Cancer Institute-designated cancer centers delivered SCP to their breast and colorectal cancer survivors [5,6]. This despite the fact that surveys indicate primary care physicians feel more comfortable in caring for cancer survivor needs when a defined SCP is in place, and SCPs are of value in reducing patient anxiety and improving communication during transition of care. Several barriers limit the routine use of such tools [5]. Generation of an SCP involves additional time commitment that may range from 1 to 1.5 hours, and may place additional demands in terms of personnel and resource allocation. Documentation associated with SCP in addition to the routine clinical documentation and lack of reimbursement for such efforts may further dampen enthusiasm [5,7].

While seemingly an important adjunct to care, other investigators have challenged the value of survivorship care plans currently in use. In a survey-based study, Campbell et al. found that only 10% of the HNC survivors and 34% of physicians and dentists remembered receiving SCP documents or were able to locate mailed SCPs after 3 years. Nearly 90% of the survivors were unsure of the value of SCPs. Additionally, medical jargon in a survivorship care plan may be confusing or impertinent to a layperson. Health care providers may expect a differently oriented SCP document to facilitate their role in the transition of patient care. Thus, a single document may not appropriately address both patient and health care provider needs. The SCPs are often easily lost within the volume of documentation received during the course of the cancer patient care [8].

The use of systematically developed evidence-based clinical practice guidelines, also recommended by the IOM [4], may be a better alternative to equip primary health care providers and otolaryngologists in addressing and delivering appropriate and timely survivorship care. There are several general Cancer Survivorship guidelines available, including one from the National Comprehensive Cancer Network [9], and more recent guidelines addressing chemotherapy-induced peripheral neuropathy, fatigue, and anxiety and depressive symptoms from the American Society of Clinical Oncology [10]. No evidence-based clinical practice guidelines specific to HNC Survivorship Care presently exist. Issues pertinent

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to the HNC survivor care including 1) oncologic surveillance for cancer spread, recurrence or second cancers; 2) prevention of new and recurrent cancers and other late side effects and 3) management of physical and psychosocial effects related to cancer treatment [4,9] are discussed below.

Oncologic Surveillance

Category 2A recommendations from the NCCN guidelines include complete head and neck examination, with fiberoptic examination as clinically indicated, every 1-3 months for Year 1 following treatment, every 2-6 months for Year 2, every 4-6 months for Year 3-5 and every 12 months after Year 5. Complete examination should include bimanual palpation of the oral cavity and oropharynx, and cranial nerve function assessment. Endoscopic examination of the paranasal sinuses is indicated in patients with history of mucosal melanoma. Post-treatment baseline imaging of the primary site and regional nodal basins, if treated, is recommended within 6 month of initial treatment. Baseline imaging is only recommended in T3-4 or N2-3 disease for oropharyngeal, hypopharyngeal, glottic, supraglottic, and nasopharyngeal cancers (Category 2B recommendation). Routine re-imaging is discouraged unless worrisome symptoms or signs are noted on clinical examination [11].

Although most recurrences are detected within three years following treatment completion, HNC survivors experience long-term mortality rates that are higher by 20-25% compared to age- and sex-matched counterparts in the general population [12,13]. HNC recurrences and metachronous disease account for 29% of the observed deaths in the first ten years following treatment. Locally advanced nasopharyngeal and hypopharyngeal cancers are at relatively higher risk of death from their primary disease compared to the other head and neck malignancies even after five years [14]. A high index of suspicion is warranted in providing oncologic surveillance and care for these patients.

Second Primary Cancer Screening

Non-HNC second primaries are reported to have an annual incidence of 3-7% and account for 25% of the HNC survivor deaths. Nearly half of these arise from the lungs and bronchi, 10% from the esophagus and 5% from the colon and rectum [14]. The high prevalence of non-HNC primaries is mostly explained by field cancerization of the upper aerodigestive tract due to shared exposure to alcohol and tobacco [15-17]. Breast cancer, cervical cancer and prostate cancer also contribute to a small proportion of the HNC survivor deaths [14]. Therefore, routine screening for other cancers, based on patient age, hereditary risks, and other specific risks unique to the cancer survivor should be offered. The rate of second primary formation in HPV associated oropharyngeal cancer is much lower, however [18].

Lung Cancer Screening

HNC survivors between the ages of 55 and 74 years, with thirty pack-year history of smoking or more, are eligible for annual lung cancer screening using Low Dose Computerized Tomography according to the NCCN lung cancer screening recommendations [19,20]. Annual chest x-rays remain the practice in many centers, usually due to insurance coverage limitations, although they have been shown to be poor screening tools, failing to detect more than 65% of pulmonary lesions and failing to cause a reduction in lung cancer mortality. The NCCN and American Cancer Society recommend against using chest radiography for lung cancer screening [21,22]. Meta-analyses have demonstrated the superiority of LDCT to chest radiography in detecting lung cancers in high-risk smokers including curable-stage disease, and in decreasing lung cancer-specific mortality by 20%; however, no decrease in all-cause mortality and higher false-positive rates were associated with LDCT [22-24]. The American Cancer Society Lung Screening Guidelines therefore recommend that patients be helped in their decision-making considering the cost and the false positive rates [19,25]. Of note, the Centers for Medicare and Medicaid Services recently approved Medicare coverage for yearly lung cancer screening with LDCT in high-risk patients.

Colorectal Cancer Screening

HNC survivors 50 years of age and older are recommended to have routine screening for colorectal cancer through a colonoscopy (every ten years) or a flexible sigmoidoscopy (every five years) with interval stool-based testing (every 3 years). Other strategies include double-contrast barium enema (every five years), CT colonography (every five years), or stool based testing such as fecal immunochemical testing (annually), high-sensitivity guaiac-based testing (annually), or Stool sDNA test (every 3 years). Patients at increased risk for colorectal cancer due to personal or family history of adenomatous polyps or colorectal cancer, or history of inflammatory bowel disease should be considered for cancer screening at an earlier age and/ or at more frequent intervals [26,27].

Smoking and Alcohol Cessation

The importance of smoking cessation should be emphasized to HNC survivors, considering the significantly heightened risk of second primary tumors (five fold increased risk) and death in active smokers compared to former smokers [28-31]. Support through smoking cessation programs and counseling is important. Pharmacological aids alone for smoking cessation are usually ineffective [30]. Caution is advised about counseling patients concerning electronic cigarette use as it may be associated with increased nicotine dependence and decreased likelihood of smoking cessation in cancer patients [32]; other studies however suggest effectiveness similar to nicotine patch use in reducing the number of cigarettes smoked [33,34]. Similarly, alcohol has been identified as an independent risk factor (2-3 fold increased risk) for second primary tumors, and alcohol cessation counseling is encouraged [29,35].

Cancer Related Physical Effects

The physical effects from cancer treatment strategies including surgery, radiation and chemotherapy, are numerous and cannot be comprehensively discussed in one paper. Lymphedema, decreased range of motion, trismus, speech dysfunction, and dysphagia and aspiration risks should be assessed during follow-up visits, as many patients could benefit from physical therapy and interventions by a speech and language pathologist [11]. Further investigations for assessment of mechanical causes of dysphagia such as esophageal and pharyngeal stenoses, recurrences or second primaries may also be warranted.

Xerostomia secondary to radiation therapy remains one of the most significant long-term side effects. It can also be associated with burning sensation in the mouth and pain, altered voice, taste, appetite, swallowing, and poor overall dental health. A wide array of choices are available for the management of xerostomia including good oral hygiene, use of fluoride rich agents and antimicrobials; salivary substitutes including calcium phosphate containing solutions, lysozyme containing gels, lactoferrin and peroxidase; sialogogues such as pilocarpine, xylitol chewing gums or lozenges, and sorbitol/malic acid lozenges; use of alcohol-free mouthwash and hydration [11,36-37]. Involvement of a dental provider with expertise in care of patients with head and neck cancer, is recommended for close and frequent patient follow-up to minimize risks of oral complications such as dental caries and osteoradionecrosis, and to assist with early identification and management when such complications occur [36,38].

Hypothyroidism, which affects 3% to 50% of radiated HNC patients, usually occurs two to five years following radiation. It may present with non-specific symptoms such as fatigue, mood changes, and depression, and may be easily overlooked [39-41]. Serum TSH levels are therefore usually recommended every 6 to 12 months, and thyroid hormone replacement should be considered when clinical or subclinical hypothyroidism is encountered [11,42].

Head and neck cancer survivors have a higher incidence of accelerated atherosclerosis and associated cardiovascular disease. Baxi et al. reported an 11-fold increase in risk of death due to cardiovascular disease in survivors 70 years or older compared to those younger than 50 years [14]. Patients who receive radiation therapy may experience an increased incidence of carotid stenosis and cerebrovascular events as long-term complications related to therapy. These factors contribute to up to 21% of HNC survivor deaths [14,41,43]. No evidence-based guidelines for the prevention and management of radiation-associated vasculopathy are available [44]. Screening for symptoms indicative of cerebral ischemia, auscultation of vascular bruit as part of clinical exam, non-invasive imaging modalities for screening such as duplex scanning and aggressive risk factor modifications are different approaches that may play a role in timely detection and management of radiation associated vasculopathy [45]. The role of routine ultrasound or duplex screening is not established and some investigators do not recommend such tests in asymptomatic patients without audible bruits [41]. Although statins and anti-platelet agents have been found to be of benefit in patients at risk for vascular disease related to atherosclerosis, prophylactic benefit of these medications in radiation-associated vasculopathy has not been determined.

Cancer Related Psychological Distress

Fear of recurrence

Head and neck cancer survivors often fear recurrence of their disease. However, this is under recognized and remains an area of unmet need in the overall management of these patients [46]. In their systematic review, Koch et al noted that most survivors have a modest fear of recurrence. Patients with lower levels of education, lower levels of optimism, and Hispanic or White/Caucasian patients experienced a higher level of such fear [47]. The negative impact of fear of recurrence on patient quality of life, psychosocial well-being and tobacco use are well documented [48-49]. Screening questionnaires may help identify patients in need of additional guidance and support, and referral for strategies such as acceptance and commitment therapy or cognitive behavior therapy should be considered in patients that display significant symptoms related to such fear [49-50].

Anxiety and depression

Head and neck cancer survivors may face psychosocial challenges that impact their family interactions, social functioning and professional lives. They face additional psychological distress from physical disfigurement related to treatment, and perceived loss of their humanity through impairment of basic functions such as breathing, speaking, eating and sexual intimacy [51,52]. In a survey of head and neck cancer survivors, 50% of the patients admitted that they experienced decreased quality of life due to difficulty eating, and 17% had persistent pain 5 years following their treatment [52]. In another cross-sectional study, one-third of head and neck cancer survivors continued to experience psychological distress 7 to 11 years post-treatment [53]. Clinically significant depression affects 13-44% of head and neck cancer survivors. This is in comparison to prevalence of depression in 20-30% of all patients affected by cancer [52,54-57]. Depression in cancer survivors is associated with a 1.5 times higher risk for self-harm or suicide [58]. Only a small proportion of these patients seek psychotherapy or counseling, and an equally small proportion of these patients are managed with antidepressants [53]. Several accurate screening tools such as the Hospital Anxiety and Depression Scale, Personal Health Questionnaire-9, Beck depression Inventory, and Centre for Epidemiological Studies-Depression Scale are available, and should be used in routine follow-ups to detect significant psychological distress [55,59].

Prophylactic use of antidepressants, like escitalopram, has been shown in a randomized placebo controlled trial, to cut the rate of depression in head and neck cancer patients undergoing treatment by more than half. Additionally, patients who receive prophylactic pharmacotherapy reported improved quality of life for up to 3 months following medication cessation [58]. Further studies assessing possible long-term benefits of anti-depressant prophylaxis may help solidify the role of pharmacotherapy and draw further attention to the importance of recognition and management of psychological impact experienced by head and neck cancer survivors on account of their disease and its subsequent management.

Conclusion

The needs of the growing head and neck cancer survivor population are complex, and are not limited to cancer surveillance. Attempts to optimize survivorship care through survivorship care plans have not been uniformly successful. The demand for evidence-based recommendations to guide head and neck cancer survivor care, and strategies to address head and neck cancer treatment effects continues to grow.

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