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Collaboration Between Cancer Survivorship and Rehabilitation Programs With Head and Neck Patients

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Abstract

Purpose: The purpose of this article is to present an example of collaboration between a cancer survivorship and cancer rehabilitation program at an academic-affiliated hospital.

Findings: The article demonstrates the process of identifying and treating the surgical and radiation effects experienced by a head and neck cancer survivor. The specific roles of the advanced practice nurse and the physical therapist in assessing, identifying and treating cancer treatment-effects such as lymphedema and orthopedic problems are highlighted.

Conclusion: The survivorship visit is an opportunity to identify treatment-related effects amenable to rehabilitation and to refer head and neck cancer survivors to physical therapy for further evaluation and treatment.

Clinical Implication: Collaboration between nurses and physical therapists engaged in survivorship care can provide an effective and efficient pathway to improved functional outcomes for cancer survivors.

Key Words: Survivorship; Cancer Rehabilitation; Tonsil; Lymphedema; Treatment Related Effects.

Background

The improvement in cancer curative rates has led to a growth of cancer survivors who have undergone intensive treatment with significant risk of medical and psychological issues. These survivors are often left with functional deficits and pain that complicates their daily lives (Alfano et al., 2012). A cancer survivor is defined by the National Cancer Institute as "any person with a history of cancer, from the time of diagnosis through the remainder of their life" (Twombly, 2004, p. 1414). The Commission on Cancer (CoC) has taken an active role in guiding care provided to cancer survivors through their accreditation requirements that were first published in 2012 and updated in 2016. Standard 3.3 is specific to survivorship care and requires that a process be in place for the provision of a treatment summary and care plan to eligible cancer survivors who have completed active treatment for curative intent (CoC, 2016). Of the services, cancer rehabilitation is viewed by the CoC (2016) as a requisite for cancer survivors to improve functional status and quality of life. Structured programs for cancer rehabilitation services should include "lymphedema care, pain management, lifestyle and weight management programs, physical therapy, occupational therapy, exercise therapy and alternative medicine options such as reflexology and massage" (COC, 2016, p. 26). Practitioners in these specialties are to have knowledge of cancer-driven impairments in an "effort to maintain or restore function, reduce symptom burden, maximize independence and improve quality of life" (Silver et al., 2015, p. 3636).

The survivorship program at a large academic hospital has collaborated with the rehabilitation department to create care tailored for cancer patients that incorporate the guidelines from the CoC. A functional assessment tool is utilized in the assessment of cancer survivorship patients to guide appropriate referral for treatment. Therapists have undergone additional training in providing treatment for this special population. A patient case is presented to illustrate how the specialized knowledge of healthcare provider in these programs provide integrated care to address unique interactions between treatment-related effects experienced in a head and neck cancer survivor.

Case Presentation

A male patient in his late seventies was referred to the survivorship clinic at a large academic urban hospital with a diagnosis of left tonsil squamous cell carcinoma.

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Pathology revealed a Stage III cancer. His treatment consisted of surgery with direct microlaryngoscopy, transoral robotic left radical tonsillectomy, left base of tongue resection, left soft palate resection, left palatoplasty, right transoral robotic tonsillectomy, and left selective lymph node dissection of Level 2–4 nodes. Following surgery, he received adjuvant radiation therapy to his left tonsil and left neck.

His past medical history included hyperlipidemia, hypertension, Type II diabetes mellitus, gastroesophageal reflux disease, vitamin B12 deficiency, depression, and bronchial asthma. His diabetes mellitus was diagnosed over 10 years prior to the current visit and controlled on metformin. He reported paresthesia in both feet, which started 8 years after his diabetes diagnosis, improved after back surgery, but continues until the present time. His past surgical history included a hernia repair, total knee arthroplasty, right rotator cuff repair, and back surgery.

Survivorship Clinic Visit

The patient was seen in the survivorship clinic 3 months after the completion of his radiation therapy. Treatment-related effects were assessed using the following tools: Functional Assessment of Cancer Therapy-Head and Neck for overall quality of life assessment, distress screening, Rehabilitation Screening Tool, Functional Assessment of Chronic Illness Therapy-Fatigue, and the Patient Health Questionnaire-9 to assess for depression. Significant issues identified from these screening tools and follow-up conversation with the patient included xerostomia, dysphagia, lymphedema, moderate fatigue, moderate symptoms of depression, distress of 6 out of 10 due to financial issues, memory issues and treatment-related effects from his surgery, and radiation therapy. The Rehabilitation Screening Tool identified fatigue, balance issues, decreased neck range of motion (ROM), and upper extremity weakness. He had speech therapy for dysphagia after surgery and had recently established with the lymphedema clinic for neck and upper chest lymphedema.

The physical examination focused on potential treatment-related changes in anatomical structures that would lead to functional limitations. His surgical incision was well healed and had only mild fibrotic components. His left-sided neck ROM was within normal limits, but right rotation was 50° and side bend was 26°. He reported left lateral stiffness and mild pulling sensation by his left ear during the neck maneuvers. He had mild fullness of the neck in submandibular area, left side greater than right. On arm ROM examination, he had left lateral arm extension of 90° and right lateral arm extension of 100°. His strength was decreased in his left arm and rated as 4+ out of 5.

Therapeutic interventions that resulted from the survivorship evaluation included referral to psychiatry for depression and referral to neurologist for comprehensive cognitive evaluation. Additional recommendations were given by the nurse practitioner for cancer rehabilitation to address upper extremity functional limitations and balance. He was to continue with the lymphedema program and regular follow-up with speech therapy.

Physical Therapy Component

Lymphedema Care

Lymphedema programming to address his chest and neck/facial edema included 10 sessions over a span of 3 months. Initial findings revealed (a) limited knowledge of manual lymph drainage techniques and self-care, (b) limited cervical active ROM, and (c) edema and congestion in neck. Lymphedema treatment effectively reduced neck and distal facial edema by 8 cm in composite scoring. The end of lymphedema treatment was determined by his ability to maintain decongestion with self-care and perform proper application and use of decompressive bandaging and improvement in cervical ROM. Once he was able to demonstrate the purpose and proper procedures for lymphedema self-care, he was progressed to therapy focused on balance and shoulder strength and ROM.

Orthopedic Care

His orthopedic and movement evaluation revealed postural changes that included rounded and forward shoulder girdle, internally rotated shoulders, abducted scapulae, and a significant forward head posture (see Table 1). He maintained balance with weight on heels and hips forward. He identified arm and shoulder issues as most limiting at 5 months postradiation. He had undergone right rotator cuff repair about 1 year ago and began formal rehabilitation, which was interrupted by the current cancer diagnosis and treatment.

Interventions

Therapeutic intervention was planned for two times per week with his agreement to focus on (a) myofascial release for anterior neck structure flexibility, (b) posture modification exercises, (c) shoulder girdle strengthening to support functional activity, and (d) neuromuscular activities for balance retraining and fall recovery skills. He participated in five sessions over the course of 1 month during which he was instructed in home exercises to address issues that, with an understanding of the purpose and necessity to make change in identified behaviors, could make a difference in his functional mobility experience. He demonstrated understanding of form and function

Table 1 Initial physical therapy results

Cervical ROM	Flexion chin to chest	
	Extension allows plane of face to 40° with all motion in upper C spine	
	Rotation: right 50°, left 65° with pulling pain (L)	
	Retraction with practice, able to produce 3 cm of motion	
Cervical strength	Within functional limits with reports of strain in cervical flexion and (L) rotation	
	Right (degrees)	Left (degrees)
Shoulder AROM flexion	140	125
Abduction	140	150
Internal rotation	60	70
Hand behind back	To 4 in. from inferior scapular angle	At inferior scapular angle
Shoulder ER	75	80
Hand behind head	T2	T2
Scapular strength	4/5 rhomboids and mid traps	4/5 rhomboids and mid traps
	4–/5 lower trapezius	4–/5 lower trapezius
Shoulder strength	4+/5 throughout	4+/5 throughout
Berg Balance Test	16/28 on 7 item score	
Manual palpation	No significant findings	Palpable firmness of muscle tissue and overlying fascia (L) sternocleidomastoid and anterior scalene area (radiation target area)

Note. ROM = range of motion; AROM = active range of motion; ER = external rotation.

during these sessions, indicating home compliance and practice. He canceled the final scheduled visit, making full reassessment of deficits difficult. During his last session in skilled physical therapy, he demonstrated the following functional abilities (see Table 2).

He did demonstrate functional mobility and control in clinic at the right shoulder girdle as well as with manufactured challenges to balance including unstable surfaces, narrow passages, altered pacing, and static and dynamic standing tasks with narrow and wide bases of support. Fatigue complaints were not reevaluated formally. He reported improving energy levels during the course of skilled therapy.

Skilled physical therapy intervention for the variety of sequelae identified at his survivorship visit appeared successful in mitigating late effects of cancer treatment. He appeared to be functioning well and overall to continue enjoying leisure activities of his choice. The value of identifying and addressing these treatment-related effects cannot be overstated. Each effect listed may limit self-directed daily activities in minor ways, but the combination of limitation can significantly interact to create greater levels of impairment that impact a survivor's ability to participate in his or her daily life. It is important for health care providers to establish goals in concert with the patient so activities that are most meaningful to the

Table 2 Final physical therapy results

Cervical ROM	Flexion chin to chest	
	Extension allows plane of face to 40° with primarily upper cervical motion	
	Rotation: right 50°, left 65° with pulling pain (L)	
	Retraction with practice, able to produce 3 cm of motion	
Cervical strength	Within functional limits	
	Right (degrees)	Left (degrees)
Shoulder AROM flexion	140	125
Abduction	140	150
Internal rotation	60	70
Hand behind back	To 4 in. from Inferior scapular angle	At inferior scapular angle
Shoulder ER	75	80
Hand behind head	T2	T2
Scapular strength	4/5 rhomboids and mid traps	4/5 rhomboids and mid traps
	4/5 lower trapezius	4/5 lower trapezius
Shoulder strength	4+/5 throughout	4+/5 throughout
Berg Balance Test	Not reassessed, patient cancelled final session	
Manual palpation	No significant findings	Palpable firmness of muscle tissue and overlying fascia (L) sternocleidomastoid and anterior scalene area (radiation target area)

Note. ROM = range of motion; AROM = active range of motion.

patient are addressed (Passchier et al, 2016). For example, survivors may focus on activities such as participation in social activities or returning to work.

Discussion

Cancer rehabilitation programs provide highly specialized knowledge that can improve the treatment outcomes for this population (Cheville et al., 2017). Therapists are knowledgeable about the effects that occur with each type of cancer treatment. Because of the intensity of multimodality treatment that can include surgery, radiation, chemotherapy, along with newer options such as prolonged hormonal therapy or immunotherapy, patients can experience a complex interaction of treatment-related effects (Jacobs & Shulman, 2017). Occasionally, symptoms that develop during treatment, such as fatigue, do not resolve and become chronic in nature. Delayed effects can occur due to damage from a cumulative course of treatment, and late effects may reveal themselves months to years after completion of treatment (Silver et al., 2013). Survivors often find that they experience a typical clustering of constitutional symptoms that can include fatigue, insomnia, pain, cognitive issues, and psychological deficits. Changes in physical functioning can occur after surgery from changes in structure or neurological damage that can result in such issues as weakness and spasm. Radiation may cause fibrotic damage to any structure within the field of treatment, and these changes may not reveal themselves for an extended period. Fibrotic changes to nerves in the spinal cord, nerve roots, plexus structures, or peripherally within muscular structures are key causes of dysfunction (Stubblefield, 2011). Peripheral neuropathy known to be caused by such chemotherapy agents such as taxanes can limit upper- and lower-extremity usage, along with creating detrimental changes in gait. It is also important to understand that our older survivors often enter treatment with preexisting deficits that may worsen with exposure to toxic cancer treatments or complicate treatment-related effects that develop.

Individuals that provide cancer survivors with rehabilitation treatment need to have the skills to assess the complicated interaction of multiple treatment-related effects and daily limitations that result from these issues (Stout et al., 2016). It is important to be able to sort through the complex presentation of psychological, cognitive, and physical complaints to prioritize intervention and create a practical plan of care. Using functional limitation as the litmus test to guide therapy will allow for larger impacts on reestablishing independence and improving quality of life.

This case study serves as an example of an interdisciplinary collaboration that addresses disablement issues experienced by cancer survivors, which are amenable to rehabilitation but are often not routinely assessed and treated. A survivorship visit performed after the completion of treatment with a provider knowledgeable in the assessment of cancer treatment-related effects may allow for increased identification of appropriate candidates for physical or occupational therapy. Patients are referred to specialized therapy programs that have providers with advanced knowledge in the complex care that cancer survivors require for optimal outcomes.

Conflict of Interest

The authors declare no conflict of interest.

References

Alfano, C. M., Ganz, P. A., Rowland, J. H., & Hahn, E. E. (2012). Cancer survivorship and cancer rehabilitation: Revitalizing the link. *Journal of Clinical Oncology*, *30*(9), 904–906.

Cheville, A. L., Mustian, K., Winters-Stone, K., Zucker, D. S., Gamble, G. L., & Alfano, C. M. (2017). Cancer rehabilitation: An overview of current need, delivery models, and levels of care. *Physical medicine and rehabilitation clinics of North America*, *28*(1), 1–17.

Commission on Cancer. (2016). *Cancer program standards: Ensuring patient-centered care*. Chicago, IL: American College of Surgeons.

Jacobs, L. A., & Shulman, L. N. (2017). Follow-up care of cancer survivors: Challenges and solutions. *The Lancet. Oncology*, *18*(1), e19–e29.

Passchier, E., Stuiver, M. M., van der Molen, L., Kerkhof, S. I., van den Brekel, M. W., & Hilgers, F. J. (2016). Feasibility and impact of a dedicated multidisciplinary rehabilitation program on health-related quality of life in advanced head and neck cancer patients. *European Archives of Oto-Rhino-laryngology*, *273*(6), 1577–1587.

Silver, J. K., Baima, J., & Mayer, R. S. (2013). Impairment-driven cancer rehabilitation: An essential component of quality care and survivorship. *CA: A Cancer Journal for Clinicians*, *63*(5), 296–317.

Silver, J. K., Raj, V. S., Fu, J. B., Wisotzky, E. M., Smith, S. R., & Kirch, R. A. (2015). Cancer rehabilitation and palliative care: Critical components in the delivery of high-quality oncology services. *Support Cancer Care*, *23*(12), 3633–3643.

Stout, N. L., Silver, J. K., Raj, V. S., Rowland, J., Gerber, L., Cheville, A., … Chan, L. (2016). Toward a national initiative in cancer rehabilitation: Recommendations from a subject matter expert group. *Archives of Physical Medicine and Rehabilitation*, *97*(11), 2006–2015.

Stubblefield, M. D. (2011). Cancer rehabilitation. *Seminars in Oncology*, *38*(3), 386–393.

Twombly, R. (2004). What's in a name: Who is a cancer survivor? *JNCI: Journal of the National Cancer Institute*, *96*(19), 1414–1415.

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