Lymphedema in Canada: A Qualitative Study to Help Develop a Clinical, Research, and Education Strategy

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KEY WORDS
Lymphedema, cancer rehabilitation, qualitative study, health policy, health education

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Objective: The aim of this study was to gather data from Canadian stakeholders to help construct a national strategy and agenda for lymphedema management.

Methods: The Canadian Lymphedema Framework, a collaboration of medical academics, lymphedema therapists, patient advocates, and others, used participatory action research and Open Space Technology to identify issues and build consensus at a national meeting of lymphedema stakeholders. Proceedings were videotaped and underwent content analysis. Existing Canadian documentation on lymphedema services was analyzed. Using those data sources, the Canadian Lymphedema Framework drafted a development strategy.

Results: Of 320 invited stakeholders (patients, therapists, physicians, industry representatives, and health policymakers), 108 participated in a day-long videotaped meeting discussing strategies to improve the management of lymphedema and related disorders in Canada. Participants identified barriers, challenges, and issues related to the need to raise awareness about lymphedema among patients, physicians, and the public. Priority issues were the global lack of awareness of lymphedema as a chronic medical condition, lack of clear responsibility within the health care system for lymphedema care, and insufficient access to services. Five priority areas for development were articulated: education of health care professionals, standards, research, reimbursement and access to treatment, and advocacy.

Conclusions: Data from stakeholders were obtained to solidly define priority areas for lymphedema development at a national level. The Canadian Lymphedema Framework has now developed a 3-year strategic roadmap to raise the profile of lymphedema in Canada; to develop a national coordinated patient advocacy strategy; to gain consensus and adoption of best-practice guidelines; and to promote the development of research networks.

A volunteer Advisory Board and three volunteer working groups (Education, Research, and Partnership Development) are now working with the executive to identify key partners, to gather data, and to take action to influence lymphedema practice, inform policy, and educate health professionals as first priorities. Valuable data on the current status of lymphedema management in Canada have been assembled through a lymphedema landscape study, undertaken in April 2010. Results were reported at the 3rd International Lymphedema Conference held in Toronto in June 2011 and will be used to inform the work of the committees and to measure progress; it will also be shared with government. Educational, translational, and research initiatives are in development. Through these volunteer efforts and in conjunction with stakeholders, the Canadian Lymphedema Framework is establishing a long-term national strategy and campaign for improved lymphedema management in Canada.

Inter-rater Reliability Between Musculoskeletal Radiologists and Orthopedic Surgeons on Computed Tomography Imaging Features of Spinal Metastases

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KEY WORDS
Computed tomography, metastases, inter-rater reliability, spine

*With the increasing national and international popularity and exposure of *Current Oncology*, the queue of excellent submissions continues to lengthen. After substantial consideration, the journal's management has determined that the best way to manage this abundance is to move to a "hybrid" of combined print and electronic publication, with every e-manuscript being supported by a full print abstract and key words, and of course, indexing in PubMed for international recognition.

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Introduction: The purpose of the present study was to assess the inter-rater reliability in scoring the computed tomography (CT) imaging features of spinal metastases in patients referred for radiotherapy (RT) for bone pain. This was an early investigational step in the process of determining the need for a prognostic tool to evaluate metastatic tumours to the spine.

Methods: The available CT imaging for 41 patients who had confirmed spinal metastases and who, from January 2007 to October 2008, were receiving RT in an outpatient palliative clinic at a tertiary care hospital were retrospectively reviewed. Given the retrospective nature of the study, the review used the CT images routinely obtained for RT simulation. The 3 musculoskeletal radiologists and 2 orthopedic surgeons participating in the study independently evaluated the CT imaging features using in-house spinal assessment criteria including radiated site; extent of tumour involvement; type of lesion (that is, sclerotic, lytic, mixed); presence of pathologic fracture; height loss; column involvement; soft-tissue component; nerve-root compression; and kyphosis. The musculoskeletal scoring was considered the clinical standard. Cohen kappa coefficients were calculated between the two specialties.

Results: Mean age in this patient group (30 men, 11 women) was 69.2 years. The mean worst pain score was 7.2 out of 10, and the mean total daily oral morphine equivalent was 73.4 mg. Treatment dose–fractionation schedules included 8 Gy/1 (n = 28), 20 Gy/5 (n = 12), and 20 Gy/8 (n = 1). Areas of moderate agreement in identifying the CT imaging appearance of spinal metastasis included extent of vertebral body involvement (κ = 0.48) and soft-tissue component (κ = 0.59). Areas of fair agreement included extent of pedicle involvement (κ = 0.28), extent of lamina involvement (κ = 0.35), and presence of pathologic fracture (κ = 0.20). Areas of poor agreement included nerve-root compression (κ = 0.14) and vertebral body height loss (κ = 0.19).

Conclusions: The range of agreement between musculoskeletal radiologists and orthopedic surgeons for most spinal assessment criteria was moderate to poor. The identified areas of poor agreement are central to clinical decision-making, highlighting the need to establish objective measures for validating clinical outcome, the efficiency of clinical trials, and the degree of certainty for clinicians correlating interval change with true change in the clinical status of patients. Our study may serve as an early investigational step in determining the need for a prognostic tool to evaluate metastases to the spine. Such a tool would be important in formulating consensus-based protocols for a multidisciplinary approach to managing challenging vertebral injuries secondary to spinal metastases.

Patterns of Presentation, Referral, and Treatment of Hepatocellular Carcinoma in a Pre-Sorafenib Era: Experience of a Canadian Provincial Cancer Agency

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KEY WORDS
Sorafenib, HCC, targeted therapy

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Background: Systemic treatment options in hepatocellular carcinoma (HCC) are limited. Sorafenib, a multikinase inhibitor, has been shown to improve survival in patients with advanced HCC and adequate hepatic reserve. Currently, the proportion of referred patients with HCC that would be eligible for sorafenib therapy is unclear. We reviewed patterns in the presentation and management of referred patients with HCC at the BC Cancer Agency (BCCA) before the availability of sorafenib.

Methods: Records of patients with HCC referred to the BCCA from January 1, 2003, to December 31, 2007, were reviewed. Distributions were analyzed using frequency statistics.

Results: Of 518 patients reviewed, 77% were men and 45% were of Asian ethnicity; median age was 64 years. Histology confirmation was available in only 34% of the patients; 64% had an elevated level of alpha-fetoprotein at diagnosis. The Child–Pugh score at presentation could not be determined in 56%; the most common missing variable was albumin (44%). Among the 226 evaluable patients, the Child–Pugh classification was A in 140 (62%), B in 64 (28%), and C in 22 (10%). Eastern Cooperative Oncology Group performance status was not documented in 40% of patients. The TNM staging was recorded per agency protocol; however, it was incompletely documented in most patients. Distant metastases were recorded in 12% of patients, and 75 patients (15%) underwent hepatic resection before referral. After BCCA referral, no further therapy was offered to 287 patients (54%),

regional therapy was offered to 170 (33%), and chemotherapy was offered to 67 (13%).

Conclusions: In this era of targeted therapies, characterizing the proportion of patients with HCC that would be eligible for such therapies is important. In our experience, referred patients are commonly Asian men with an acceptable hepatic reserve by Child–Pugh score, who have been diagnosed by clinical criteria alone. Most patients were offered no further therapy. Moving forward, accurate and systematic documentation of staging, performance status, and Child–Pugh score per the Barcelona Clinic Liver Cancer staging protocol will be imperative to best identify patients who may benefit most from sorafenib or available clinical trials, and to subsequently evaluate the population-based impact of the introduction of such therapies in patients with advanced HCC.

The Cost–Utility of Adjuvant Chemotherapy Using Docetaxel and Cyclophosphamide Compared with Doxorubicin and Cyclophosphamide in Breast Cancer

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KEY WORDS
Breast cancer, adjuvant therapy, chemotherapy, TC chemotherapy, AC chemotherapy, cost–utility analysis

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Background: The adoption of a chemotherapeutic regimen in oncologic practice is a function of both its clinical and its economic impacts on cancer management. For breast cancer, U.S. Oncology trial 9735 reported significant improvements in disease-free and overall survival favoring adjuvant TC (docetaxel 75 mg/m^2 and cyclophosphamide 600 mg/m^2 every 3 weeks for 4 cycles) compared with AC (doxorubicin 60 mg/m^2 and cyclophosphamide 600 mg/m^2 every 3 weeks for 4 cycles). We carried out an economic evaluation to examine the cost–utility of adjuvant TC relative to AC, in terms of cost per quality-adjusted life year (QALY) gained, given the improved breast cancer outcomes and higher costs associated with the TC regimen.

Methods: A Markov model was developed to calculate the cumulative costs and QALYs gained over a 10-year horizon for hypothetical cohorts of women with breast cancer treated with AC or with TC. Event rates, costs, and utilities were derived from the literature and local resources. Efficacy and adverse events were based on results reported from U.S. Oncology trial 9735. The model takes a third-party direct payer perspective and reports its results in 2008 Canadian dollars. Costs and benefits were both discounted at 3%. Deterministic and probabilistic sensitivity analyses were conducted and a cost-effectiveness acceptability curve was conducted to test the plausibility of the cost–utility results over a reasonable range of parameters uncertainty. The impact of using granulocyte colony–stimulating factor (G-CSF) as prophylaxis for febrile neutropenia with adjuvant TC chemotherapy was also examined.

Results: Compared with AC, TC was associated with $3,960 in incremental costs and a 0.24 QALY gain at a 10-year horizon, for a favorable cost–utility of $16,753 per QALY gained. The likelihood of the TC regimen being cost-effective at the $50,000-per-QALY-gained willingness-to-pay threshold was 91%. The cost–utility estimate increased to $21,333 and $33,510 per QALY gained assuming that the TC regimen was associated with febrile neutropenia rates of 10% and 20% respectively. Moreover, the cost–utility reached $43,693 per QALY if primary prophylaxis with G-CSF was used in all patients undergoing TC chemotherapy. The cost–utility results were robust to all other model assumptions and input parameters.

Conclusions: Adjuvant chemotherapy with TC is both more effective and more costly than that with AC; it also has favorable cost–utility estimates that fall well below commonly used cost-effectiveness thresholds. Based on its favorable clinical and economic evaluations, the TC regimen is an acceptable adjuvant chemotherapy option for women with breast cancer.

Invasive Mediastinal Staging of Non-Small-Cell Lung Cancer: A Clinical Practice Guideline

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KEY WORDS
Non-small-cell lung cancer, NSCLC, clinical practice guideline, mediastinal staging

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Introduction: Lung cancer remains the leading cause of cancer death for both men and women in Ontario, with almost 8000 new cases expected to be diagnosed each year in the province. In non-small-cell lung cancer (NSCLC), invasive mediastinal staging is typically used to guide treatment decision-making. Here, we present clinical practice guideline recommendations for invasive mediastinal staging in NSCLC patients who have been staged T1–4, N0–3, with no distant metastases. Staging techniques are also addressed.

Methods: Draft recommendations were formulated based on the best available evidence gathered by a systematic review and a consensus of expert opinion. The draft recommendations underwent an internal review by clinical and methodology experts, and an external review by clinical practitioners through a survey assessing the clinical relevance and overall quality of the guideline. Feedback from the internal and external reviews was integrated into the clinical practice guideline.

Results: A previously published guideline by the American College of Chest Physicians (ACCP) was identified. The guideline's methods were reviewed and found to be systematic and rigorous, and therefore its evidence base, which was current to June 2006, was adopted and updated to August 2010. In general, the clinical experts who participated in the review process agreed with the guideline. They approved its methodologic rigour, and more than 80% of the surveyed practitioners gave it a high quality rating. The expert reviewers who participated in the external review provided written comments, which were incorporated into the final version of the guideline.

Conclusions: Invasive mediastinal staging of NSCLC is recommended in all cases except those involving patients with normal-sized lymph nodes, negative combined positron-emission tomography and computed tomography (PET-CT), and peripheral clinical stage 1A tumour. By contrast, the ACCP guideline does not recommend invasive staging in the case of normal computed tomography imaging, negative PET-CT, and peripheral clinical stage 1 tumour. This distinction was made because, in the opinion of the guideline working group, the probability of nodal metastasis is greater with larger tumours. In other respects, the results of the updated systematic review largely accord with the findings of the ACCP. In a mediastinoscopy, 5 nodal stations (2R/L, 4R/L, 7) should routinely be examined. Further discussion of staging techniques is included in the full text of the guideline. Mediastinoscopy continues to be the standard technique for invasive mediastinal staging, but newer techniques are emerging, and therefore ongoing monitoring of the literature in this field is recommended.

Survivorship Services for Adult Cancer Populations: A Pan-Canadian Guideline

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KEY WORDS

Psychosocial, supportive care, cancer survivor, survivorship, organization of care, care plan

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Objective: Our goal was to develop evidence-based recommendations for the organization and structure of cancer survivorship services, and best-care practices to optimize the health and well-being of post–primary treatment survivors in the Canadian health care system. This systematic review sought to determine the

optimal organization and care delivery structure for cancer survivorship services, and the specific clinical practices and interventions that would improve or maximize the psychosocial health and overall well-being of adult cancer survivors.

Data Sources: We conducted a systematic search of the Inventory of Cancer Guidelines at the Canadian Partnership Against Cancer, the U.S. National Guideline Clearinghouse, the Canadian Medical Association InfoBase, MEDLINE (OVID: 1999 through November 2009), EMBASE (OVID: 1999 through November 2009), PsychINFO (OVID: 1999 through November 2009), the Cochrane Library (OVID; Issue 1, 2009), and CINAHL (EBSCO: 1999 through December 2009). Reference lists of related papers and recent review articles were scanned for additional citations.

Methods: Articles were selected for inclusion as evidence in the systematic review if they reported on organizational system components or care delivery models for survivors of cancer, or on psychosocial or supportive care interventions designed for survivors of cancer. Articles were excluded from the systematic review if they focused only on pediatric cancer survivor populations or on populations that transitioned from pediatric cancer to adult services; if they addressed only pharmacologic interventions or diagnostic testing and follow-up of cancer survivors; if they were systematic reviews with inadequately described methods; if they were qualitative or descriptive studies; and if they were opinion papers, letters, or editorials.

Data Extraction and Synthesis of the Evidence: Evidence was selected and reviewed by three members of the Cancer Journey Survivorship Expert Panel (SM, TC, TKO). The resulting summary of the evidence was guided further and reviewed by the members of Cancer Journey Survivorship Expert Panel. Fourteen practice guidelines, eight systematic reviews, and sixty-thee randomized controlled trials form the evidence base for the guidance document. The final recommendations were reviewed by a purposively selected national expert interdisciplinary group. Most of the trials examined were of low quality and focused mainly on breast cancer populations, but overall, the evidence suggested that survivors can benefit from organized survivorship services and transition planning and from interventions designed to reduce the persistent effects of cancer and lead to adoption of health lifestyle behaviours.

Conclusions: A publication that provides guidance to organizations developing survivorship services and that sets out best practices for the effective management of persistent side effects of cancer treatment is clearly warranted given the burgeoning survivorship population in Canada. However, high-quality trials investigating effective models of care delivery and specific components of care are lacking. To facilitate the standardization of approaches, further research into interventions for persistent effects and high-quality trials investigating the effectiveness of various care services models that can optimize health and quality of life for the post-treatment cancer population are urgently required across cancer populations.