Clinical Oncology xxx (2017) 1–9

Contents lists available at ScienceDirect

Clinical Oncology

journal homepage: www.clinicaloncologyonline.net

Original Article

Bladder-sparing Radiotherapy for Muscle-invasive Bladder Cancer: A Qualitative Study to Identify Barriers and Enablers

M. Walker *†, R.C. Doiron ‡, S.D. French §¶, D. Feldman-Stewart *†, D.R. Siemens †‡, W.J. Mackillop *†§, C.M. Booth *†§

* Division of Cancer Care and Epidemiology, Queen's University Cancer Research Institute, Kingston, Ontario, Canada
† Department of Oncology, Queen's University, Kingston, Ontario, Canada
‡ Department of Urology, Queen's University, Kingston, Ontario, Canada
§ Department of Public Health Sciences, Queen's University, Kingston, Ontario, Canada
¶ School of Rehabilitation Therapy, Queen's University, Kingston, Ontario, Canada

Received 20 March 2017; received in revised form 16 August 2017; accepted 23 August 2017

Abstract

Aims: Bladder-sparing radiotherapy for muscle-invasive bladder cancer (MIBC) may be underutilised in North America. To understand factors driving practice we used the Theoretical Domains Framework (TDF) to identify barriers and enablers of bladder-sparing radiotherapy utilisation.

Materials and methods: A convenience sample of Canadian urologists, medical oncologists and radiation oncologists participated in individual semi-structured 1 h interviews. An interview guide was developed using the TDF to assess barriers and enablers of bladder-sparing radiotherapy use. Interviews were recorded and transcribed. Two investigators independently identified barriers and enablers and assigned them to specific themes. Participant recruitment continued until saturation.

Results: In total, 71 physicians were invited to participate and 34 (48%) agreed to be interviewed; 13 urologists, 11 radiation oncologists and 10 medical oncologists. We identified the following barriers to the use of bladder-sparing radiotherapy (relevant TDF domains in parentheses): (1) beliefs that radiotherapy has inferior survival compared with cystectomy (beliefs about consequences); (2) lack of referral from urology to radiation oncology (behavioural regulation; memory, attention and decision-making); (3) lack of 'champions' who advocate for radiotherapy (social and professional role); and (4) inadequate multidisciplinary collaboration (environmental context and resources). Predominant enablers to the use of bladder-sparing radiotherapy included: (1) 'champions' who believe in the value of radiotherapy (social and professional role); (2) beliefs by urologists that radiation oncologists should present radiotherapy options to all patients (social and professional role); (3) institutional policy that all MIBC patients should be seen by multiple specialists (environmental context and resources); (4) system facilitators of radiation oncology referral (i.e. nurse navigator) (environmental context and resources); and (5) patient-driven consultations seeking alternatives to cystectomy (social influences).

Conclusions: These findings identify important barriers and enablers to the use of bladder-sparing radiotherapy in MIBC. Physician beliefs, access to multidisciplinary care and institutional context should be considered in efforts to increase the use of bladder-sparing radiotherapy.

Key words: Bladder cancer; cystectomy; knowledge translation; quality of care; radiotherapy

Introduction

The primary treatment of muscle-invasive bladder cancer (MIBC) involves either cystectomy or bladder-sparing radiotherapy. There is no contemporary level I evidence to support one modality over the other. Data from our previous population-based study in Ontario showed no significant difference in cancer-specific survival between cystectomy and radiotherapy after controlling for age and comorbidity [1]. It is unlikely that level I evidence will emerge in the future as a recent UK phase III trial designed to address this question closed early due to poor accrual [2]. Accordingly, it is not surprising that practice patterns vary widely. Recent guidelines encourage multidisciplinary care in patients with MIBC [3,4]. UK guidelines stipulate that all patients with MIBC for whom radical therapy is suitable should be offered a choice of radical cystectomy or radiotherapy with a

Author for correspondence: C.M. Booth, Division of Cancer Care and Epidemiology, Queen's University Cancer Research Institute, 10 Stuart Street, Kingston, ON, K7L 3N6, Canada. Tel: +1-613-533-6895; Fax: +1-613-533-6794.

E-mail address: boothc@kgh.kari.net (C.M. Booth).

http://dx.doi.org/10.1016/j.clon.2017.09.001
0936-6555/

radiosensitiser. Proportional use of radiotherapy for bladder cancer has decreased over time [1]. We have also reported very low rates of referral from urology to radiation oncology, which may be partially responsible for low uptake of bladder-sparing radiotherapy [5].

There is limited literature that has evaluated barriers and enablers around the use of bladder-sparing radiotherapy for patients with bladder cancer and to our knowledge there are no studies that use a knowledge translation conceptual framework. Using a validated theoretical framework at the outset helps to ensure that our study design, conduct and interpretation will optimise the design and execution of a future intervention study [6,7]. A four-step systematic approach for the development of theory-based behavioural change interventions has been described in the literature [6]. Specifically, this process guides: (1) identification of the gap in evidence-based practice and the health professionals whose behaviour needs to change; (2) identification of the specific barriers and enablers of the implementation of evidence into practice through the use of qualitative and/or quantitative methods; (3) identification of behaviour change techniques and optimal modes of delivery to modify barriers and enhance enablers for relevant health professionals; and (4) evaluation of the implemented behavioural change intervention [6]. This study addressed step 2 through the use of the Theoretical Domains Framework (TDF) to identify the barriers and enablers of bladder-sparing radiotherapy [8]. The emergent themes will allow us to link specific barriers and enablers in each relevant theoretical domain with appropriate behaviour change techniques in a future intervention study.

Materials and Methods

Study Design and Participants

This study used semi-structured interviews that were informed by domains and definitions of the TDF [8] (Appendix). A convenience sample of Canadian urologists, medical oncologists and radiation oncologists who treat bladder cancer from a variety of practice environments and geographical regions were invited to participate. Seventy-one providers were identified as potential participants; these providers represented a range of practice environments (community, academic), geographical regions (East, West, Central Canada) and specialties (urology, medical oncology, radiation oncology). The study was approved by the Research Ethics Board of Queen's University.

Procedure

Interviews were approximately 1 h in duration. Participant recruitment within each specialist group continued until data saturation was reached (i.e. two consecutive interviews that provided no new information) [9]. All interviews were audio-recorded using Audacity software with the permission of the interviewee and subsequently transcribed.

Interview Guides

An interview guide was developed for each specialty to gain insight into their knowledge, attitudes and beliefs about the use of bladder-conserving radiotherapy for patients with MIBC. The interview guides addressed 13 domains of the TDF (Appendix) in order to systematically identify the potential barriers and enablers around the use of radiotherapy [6,8].

The interview guides included the presentation of two hypothetical patient cases (Table 1). Participants were asked to provide treatment recommendations and estimated survival for each of the hypothetical cases. The use of the TDF guided the inclusion of questions related to participants': (a) awareness and agreement of guidelines or other published evidence on the use of bladder-conserving

Table 1
Estimated 5 year overall survival estimates* from urologists, medical oncologists and radiation oncologists for a hypothetical case scenario†

		Cystectomy alone	Cystectomy + chemotherapy	Radiotherapy alone	Radiotherapy + concurrent chemotherapy
Urologists $n = 13$	Mean	59.4	66.8	42.8	55.3 ($n = 12$)
	Median	60	65	40	52.5 ($n = 12$)
	Range	(45–82.5)	(47.5–90)	(25–70)	(40–75)
Radiation oncologists $n = 11$	Mean	63.2	70.7	48.5	56.5
	Median	70	75	47.5	57.5
	Range	(35–77.5)	(40–87.5)	(25–70)	(26–80)
Medical oncologists $n = 10$	Mean	53.1	57.9 ($n = 9$)	44.1 ($n = 8$)	52.4 ($n = 9$)
	Median	50	55 ($n = 9$)	47.5	52.5 ($n = 9$)
	Range	(45–67.5)	(45–75)	(15–75)	(32.5–75)
All specialists combined $n = 34$	Mean	58.8	65.7	45.1 ($n = 32$)	54.9 ($n = 32$)
	Median	60	65	46.3 ($n = 32$)	55 ($n = 32$)
	Range	(35–82.5)	(40–90) ($n = 33$)	(15–75)	(26–80)

* Where an individual participant provided a survival estimate range, the average was used.
† Case scenario: A 65-year-old man presents to the Emergency Room with haematuria. Cystoscopy and biopsy shows evidence of muscle-invasive urothelial carcinoma. Staging computed tomography scan of the chest/abdomen/pelvis and bone scan does not show any evidence of metastatic disease. The patient has minimal comorbidity, normal renal function and is willing to follow your recommendations.

Please cite this article in press as: Walker M, et al., Bladder-sparing Radiotherapy for Muscle-invasive Bladder Cancer: A Qualitative Study to Identify Barriers and Enablers, Clinical Oncology (2017), http://dx.doi.org/10.1016/j.clon.2017.09.001