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Original article

Quality indicators in the management of bladder cancer: A modified Delphi study

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Abstract

Background: Survival in patients with bladder cancer has only moderately improved over the past 2 decades. A potential reason for this is nonadherence to clinical guidelines and best practice, leading to wide variations in care. Common quality indicators (QIs) are needed to quantify adherence to best practice and provide data for benchmarking and quality improvement.

Objective: To produce an evidence- and consensus-based list of QIs for the management of bladder cancer.

Methods: A modified Delphi method was used to develop the indicator list. Candidate indicators were extracted from the literature and rated by a 27-member Canadian expert panel in several rounds until consensus was reached on the final list of indicators. In rounds with numeric ratings, a frequency analysis was performed.

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Results: A total of 86 indicators were rated, 52 extracted from the literature and 34 suggested by the panel. After iterative rounds of ratings and discussion, a final list of 60 QIs spanning several disciplines and phases of the cancer care continuum was developed.

Conclusions: This is the first study to comprehensively produce common QIs representing structure, process, and outcome measures in bladder cancer management. Though developed in Canada, these indicators can be used in other countries with slight modifications to track performance and improve care.

Keywords: Bladder cancer; Quality improvement; Quality indicators; Outcome

1. Introduction

Bladder cancer is the ninth most common cancer worldwide [1], and the fifth most common cancer in Canada [2]. It includes a wide spectrum of disease from low-risk non–muscle-invasive tumors to highly aggressive, and often lethal, muscle-invasive tumors. Accordingly, the management of bladder cancer is complex and covers a broad range of interventions.

Despite advances in diagnosis and treatment modalities, only a moderate improvement in cancer-specific survival has been observed over the past 2 decades [3]. Furthermore, population-based data have shown lower patient survival than that of clinical trials or academic centers [4]. The reason for this survival discrepancy is multifactorial ranging from a lack of proper health care facilities to nonadherence to urological guidelines [5,6]. Nonadherence leads to marked variations in care with several studies showing a link to poorer outcomes [5,7].

In countries where care facilities and availability of treatment are less likely contributors to poor patient outcomes, standardized quality-of-care assessment can serve to track performance and subsequent effect on clinical outcomes across the health care system [8]. To that end, the objective of this study was to produce an evidence- and consensus-based list of quality indicators (QIs) spanning the bladder cancer care continuum with input from a multidisciplinary expert panel. The QIs can be used to quantify adherence to best practices and provide data for benchmarking and quality improvement. It is our hope that performance measurement against common QIs will encourage the advancement of practice standards, promote performance comparison across jurisdictions in efforts to improve care, and stimulate sharing of best practices. The ultimate goal is to improve clinical outcomes of patients with bladder cancer.

2. Material and methods

QIs were developed using a modified Delphi approach. The Delphi method has been used in similar studies and involves iterative rounds with controlled feedback to gain consensus from a group of experts in a systematic manner [9,10]. The modification involves an in-person meeting during the consensus process; however, owing to logistical reasons, a video-conference was held instead. In short, a literature review resulted in a list of evidence-based QIs that were compiled into a candidate indicator list. Several rating rounds were then conducted with a national expert panel to come to consensus on which indicators would constitute the final QI list.

2.1. Panel selection

Expert panel members were selected using a nomination process. The medical advisory board of Bladder Cancer Canada and the executive board of the Canadian Urologic Oncology Group were asked to nominate experts in bladder cancer care across the spectrum of clinical disciplines. Potential members were e-mailed about the study and asked if they would be interested to participate.

2.2. Literature review

An extensive literature review was performed by one of the authors (W.K.) and a hospital librarian using the databases MEDLINE and Embase. The search strategy used text words and relevant indexing to identify articles discussing bladder cancer QIs or appropriate care of patients with bladder cancer. The search was limited to the adult population and articles published within the past 15 years. Case reports, commentaries, and editorials were excluded. The full MEDLINE search strategy is shown in Appendix A and was applied to both databases with modifications to search terms as necessary.

The full text of all relevant records was examined. QIs were extracted from records that directly discussed bladder cancer QIs, and extrapolated from records that discussed clinical care supporting an effect on outcome. These evidence-based QIs, called candidate indicators, were compiled into a list and reviewed against the literature for accuracy and comprehensiveness by another author (S.T.). The list went through a final review by 2 authors (S.K. and W.K.) to remove duplicates and clarify the wording. The final list of candidate indicators was then organized into a questionnaire format, grouped by the following domains: diagnosis, staging, treatment, prophylactic measures, organizational process, outcomes, follow-up, and case volume.

2.3. Rating round 1

The questionnaire was e-mailed to the panel and members were asked to rate the candidate indicators on a