Beyond the black box of geriatric assessment: Understanding enhancements to care by the geriatric oncology clinic

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ABSTRACT

Objective: Comprehensive geriatric assessment (CGA) of older adults with cancer aids treatment decision-making and prognostication. Much less is known about the supportive care elements or enhancements to care afforded by the CGA. We characterized the enhancements to care provided by a geriatric oncology clinic and determined how these vary by indication for referral.

Materials and Methods: All patients age 65 or older referred to a single academic geriatric oncology clinic between July 2015 (clinic opening) and June 2017 were included. Treatment enhancements were prospectively recorded in 5 categories: educational support, comorbidity management, symptom management, oncologic treatment delivery, and peri-operative management recommendations. Indications for referral were categorized into 3 groups: pre-treatment (n = 97, 44%), on active treatment (n = 89, 41%), and survivorship phase (n = 33, 15%). Data were analyzed using descriptive statistics and multivariable logistic regression.

Results: 219 patients were seen during the study period (mean age 79.7 years, 69% male). Overall, educational support (96%) and comorbidity management (95%) were the most common enhancements, whereas peri-operative management (10%) was the least common and provided only to pre-treatment patients. Enhancements to care did not vary by indication for referral.

Conclusion: Educational support and comorbidity management are nearly universally offered. Most enhancements to care do not vary by indication for referral. Understanding the enhancements to care provided by geriatric oncology clinics can help with resource planning and program design.

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1. Introduction

Multiple organizations including the International Society of Geriatric Oncology, the National Comprehensive Cancer Network, and the European Organisation for the Research and Treatment of Cancer have called for the routine use of geriatric assessment (GA) in older adults prior to the initiation of cancer treatment. GA can improve prognostication, help refine risk prediction for treatment toxicity (particularly chemotherapy), and can influence treatment decision-making [1]. Indeed, a systematic review by Hamaker et al. of 10 studies demonstrated a median of 39% of treatment decisions were modified after a GA [2].

GA is usually provided in geriatric oncology (GO) clinics, which are becoming more widespread [3]. Although improving treatment decision-making and reducing both over- and under-treatment are clearly important goals of GO clinics, there are other valuable services that such clinics provide. These can include comorbidity management, clarification of treatment goals, symptom management, medication reconciliation and optimization, and other elements of care [4,5]. However, few reports detail these enhancements to care that are provided by GO clinics. This information is important because it helps non-geriatric oncologists more fully understand what GO clinics offer patients. In addition, it aids in determining effective resource requirements for establishing new or expanding clinics.

Our primary objective was to describe the enhancements to care provided in a GO clinic. In addition, to better understand which groups of patients received specific enhancements to care, we examined how enhancements to care varied based on typical indications for referral.

2. Methods

2.1. Study Design

This was a prospective observational study of consecutive patients referred from the onset of an academic GO clinic in a tertiary care cancer centre. Consecutive patients age 65 or older seen in the Older Adults with Cancer Clinic (OACC) at the Princess Margaret Cancer Centre...
specialist (SW) to identify missing data or inconsistencies.

completeness and accuracy. Data were routinely audited by a database

mented by attending physicians (SMHA, AB).

to care were recorded primarily by clinic nurses (RJ, AL) and supple-

ment, educational support, symptom management, and peri-operative

used for this study: cancer treatment delivery, comorbidity manage-

hancements to care in the literature, we developed our own (Table 1)

2.2. Classification of Enhancements to Care

As we could not identify a relevant classification system for en-

agement system was presented to an external

2.3. Data Handling

A customized database was designed using Microsoft Access. All data

where possible: comorbidity, polypharmacy, nutrition, functional sta-

tatus, social situation, bowel and bladder function, pain and fatigue, vision

hancement to care varied by referral type, we

3. Results

3.1. Baseline Characteristics

Over the study period, a total of 219 older adults with cancer were

n = 100). The vast majority of patients were considered

3.2. Enhancements to Care

The most common enhancements to care across all patients were

Table 2

<table>
<thead>
<tr>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean years (range)</td>
</tr>
<tr>
<td>Male gender</td>
</tr>
<tr>
<td>Vulnerable Elders Survey-13, mean (SD)</td>
</tr>
<tr>
<td>Vulnerable Elders Survey-13 score ≥ 3</td>
</tr>
</tbody>
</table>
| Treatment intent | Curative 94 (43%)  
| Palliative 111 (51%)  
| Other/unknown 14 (6%) |
| Disease site | Genitourinary 100 (46%)  
| Gastrointestinal 47 (21%)  
| Head & neck 12 (5%)  
| Thoracic 12 (5%)  
| Other 48 (22%) |
| Disease site |  
| Treatment stage/referral type | Pre-treatment 97 (44%)  
| Active treatment 89 (41%)  
| Post-treatment survivorship 33 (15%) |

We electronically surveyed 35 physicians who had referred one or

2.4. Perceived Value of Geriatric Oncology Clinic

more patients in a 3-month period with 5-item Likert scale questions,

to ask whether they found that the GO clinic helped them make treat-

ment decisions for frail or complex older patients and whether the GO

clinic helped support their patients during active treatment. A satisfac-

tion survey was also provided to all new and follow-up patients seen

in a one-month period in the GO clinic.

2.5. Statistical Analysis

For enhancements to care, descriptive statistics were calculated

using means for continuous variables and frequencies or proportions

for categorical variables. To examine whether the proportion of patients

receiving a specific enhancement to care varied by referral type, we

used logistic regression, adjusting for age, gender, disease site, and

treatment intent. Stepwise modelling was not performed. A p-value of

<0.05 was considered significant for all analyses. No adjustment was

made for multiple significance testing. No formal sample size calcula-

tion was performed.

Descriptive analyses were performed for survey results.

A random sample of 10% of patient charts was reviewed for data

completeness and accuracy. Data were routinely audited by a database

specialist (SW) to identify missing data or inconsistencies.

Table 1

Classification system of enhancements to care.

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer treatment delivery</td>
<td>Social worker to help with transportation</td>
</tr>
<tr>
<td></td>
<td>Blister packing cancer medications</td>
</tr>
<tr>
<td></td>
<td>Chemotherapy toxicity risk prediction</td>
</tr>
<tr>
<td></td>
<td>Suggestion of dose reduction</td>
</tr>
<tr>
<td>Comorbidity management</td>
<td>Polypharmacy/medication optimization</td>
</tr>
<tr>
<td></td>
<td>Diabetes/heart failure management</td>
</tr>
<tr>
<td></td>
<td>Cognitive impairment diagnosis &amp; management</td>
</tr>
<tr>
<td></td>
<td>Orthostatic hypotension management</td>
</tr>
<tr>
<td></td>
<td>Physiotherapy for deconditioning/falls</td>
</tr>
<tr>
<td>Educational support</td>
<td>To patient or family/caregiver around diagnosis,</td>
</tr>
<tr>
<td></td>
<td>management, or prognosis</td>
</tr>
<tr>
<td></td>
<td>Management of pain/constipation/diarrhea/low mood</td>
</tr>
<tr>
<td></td>
<td>Delirium prevention</td>
</tr>
<tr>
<td></td>
<td>Prehabilitation/early rehabilitation</td>
</tr>
<tr>
<td></td>
<td>Geriatric inpatient consult</td>
</tr>
<tr>
<td></td>
<td>Medical consults to see pre-op</td>
</tr>
</tbody>
</table>

Table 2

Baseline characteristics (n = 219).

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