

A retrospective review of outcomes in elderly patients receiving chemotherapy and immunotherapy

Diana Kim PharmD. Candidate 2021¹, Erica Hochard PharmD, BCOP², Karen Finkbiner PharmD², Dennis Grauer PharmD PhD, MS, BS², Jodie Barr, DO², Emily Schaefer PharmD. Candidate 2023³, Kathryn Vaage KU Student University of Kansas School of Pharmacy¹, LMH Health Hematology and Oncology Center² Lawrence, Kansas

Background

- Approximately **70% of cancer patients** are elderly (age ≥ 65 years) and this continues to increase.
- Elderly cancer patients are a **known vulnerable population** due to multiple factors, including lack of representation in clinical trials, increased comorbidities, and reliable access to care.
- Evidence-based decisions are often made by oncologists derived from studies that primarily include patients less than 65 years old.
- Oncology is quickly moving toward new targeted therapies** which have different side effects from traditional chemotherapy – *these studies lack safety and efficacy data in treating older patients.*
- The ASCO Guideline for Geriatric Oncology **strongly recommends a screening tool** (Geriatric Assessment) be integrated into patient care to prevent adverse events and guide geriatric oncology care.

Objective

To evaluate the outcomes in elderly cancer patients who received chemotherapy or immunotherapy to determine if a screening tool would be beneficial.

Methods

Primary endpoint:

- Patients who required dose modifications, had a discontinuation of therapy, and/or a delay in therapy due to chemotherapy and/or immunotherapy.

Secondary endpoints:

- Progression free survival
- Overall survival
- ED visits and hospitalization

IRB approved, single-center, retrospective chart review

Inclusion criteria:

- Patients ≥ 65 years of age
- Any cancer diagnosis
- Newly initiated on chemotherapy and/or immunotherapy between June 1st, 2019 through March 31st, 2020

Results

Table 1. Primary Endpoint

Note: Based on total new treatment initiations (n=117), not out of total patients (n=98)

	N=total number of treatments	% [^]
Delay in therapy	30	25.6%
D/C of therapy	32	27.4%
Decreased dose	17	14.5%
Total treatment modifications*	79	67.5%

[^]Percentages based off total of 117 treatment initiations

Table 2. Primary Endpoint – supplemental

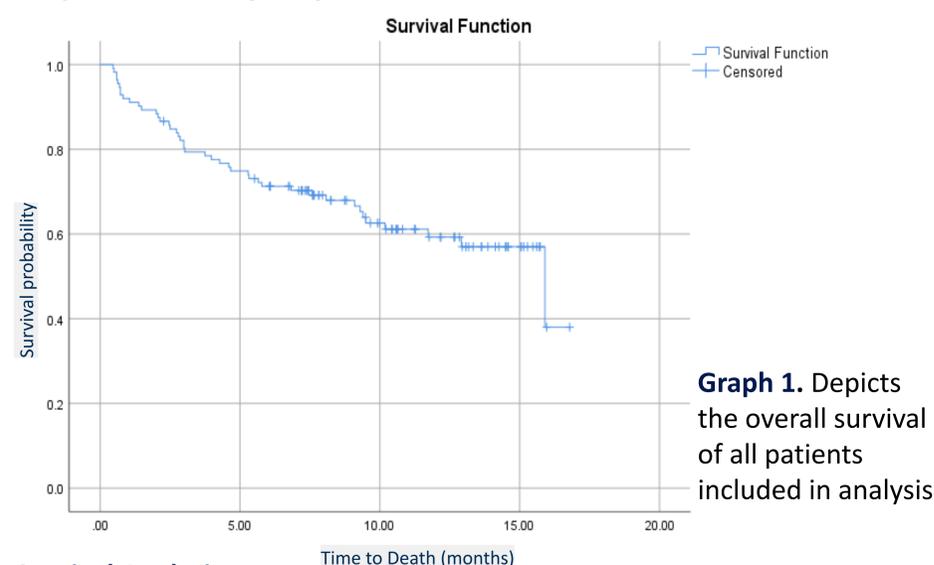
	N=total number of treatments	% [^]
No modifications required	59	50.4%

Table 3. ED and hospitalizations

	# of patients
ED Visits	41 (41.8%)
Hospitalization	30 (30.6%)
Total	71

Table 3. Depicts total emergency department visits and total documented hospitalizations for all patients included in analysis (each ED and/or hospitalization visit documented accounted as one data entry, even if for the same patient)

Graph 1. Secondary Endpoint Data



Graph 1. Depicts the overall survival of all patients included in analysis

Survival Analysis:

- All Kaplan Meier estimates for PFS data between the two groups were statistically insignificant $p > 0.05$
- The mean time to death for all patients in study was 11.5 months.
- The median time to death for all patients in study was 15.9 months.

Patient Characteristics

Table 5. Cancer Types

Cancer type	n
Lung	23
Breast	12
Colorectal	10
Multiple	7
Myeloma	5
Melanoma	5
Esophageal	5
Prostate	5
Renal cell	4
Acute Leukemia	3
Cholangio-carcinoma	3
Others*	13
Total	98

- Total of **98 patients** included in study
 - Female (n=44)
 - Male (n=54)

- Median age:** 75 years

- Age range:** 65-96 years

Prior lines of therapy

- A total of 17 (out of 98) patients had more than 1 new treatment initiation
- A total of 6 patients had more than 1 treatment modification of the same treatment
- 2 patients had more than 1 new treatment and more than 1 treatment modification of the same treatment

NOTE: there were multiple new treatment initiations that required more than 1 modification in therapy, therefore, the percentages out of the total 117 new initiations do not result in 100%.

- Due to these factors, *the total number of patients in this data set is more than the total number of patients overall.*
- Total new treatment initiations = 117**

Discussion

- In this analysis, the majority of patients evaluated required modifications in their newly initiated chemotherapy or immunotherapy due to the related adverse events.
- Determining if a patient is fit or frail prior to initiation of therapy has the potential to prevent hospitalizations.
- A prospective study that compares outcomes between patients with and without a screening tool would be of benefit.
- The feasibility of a screening tool prior to initiation of therapy must be considered before incorporating into clinical practice.

Conclusion

This study suggests a screening tool may potentially prevent adverse events and improve patient outcomes in the elderly population.

- LMH Health Cancer Center plans to implement the Geriatric Assessment.

References

- Mohile SG, Dale W, Somerfield MR, et al. Practical Assessment and Management of Vulnerabilities in Older Patients Receiving Chemotherapy: ASCO Guideline for Geriatric Oncology. J Clin Oncol. 2018;36(22):2326-2347. doi:10.1200/JCO.2018.78.8687. 2) Repetto L, Fratino L, Audisio RA, et al: Comprehensive geriatric assessment adds information to Eastern Cooperative Oncology Group performance status in elderly cancer patients: An Italian Group for geriatric oncology study. J Clin Oncol 20:494-502, 2002. 3) Hurria A, Levit LA, Dale W, et al: Improving the Evidence base for treating older adults with cancer: American Society of Clinical Oncology study. J Clin Oncol 33:3826-3833, 2015. 4) Institute of Medicine. Delivering High-Quality Cancer Care: Charting a New Course for a system in Crisis. Washington, D.C.: The National Academics Press, 2013. 5) Mohile SG, Velarde C, Hurria A, et al: Geriatric assessment-guided care process for older adults: A Delphi consensus of geriatric oncology experts. J Natl Compr Canc Netw 13:1120-1130, 2015 6) Soto-Perez-de-Celis E, Aapro M, Muss H. ASCO 2020: The Geriatric Assessment Comes of Age. Oncologist. 2020;25(11):909-912. doi:10.1634/theoncologist.2020-0804

Contact email: diana.kim27@ku.edu