

Cancer Care in Elderly Patients; A Record Based Retrospective Analysis of Clinical Profile and Overview of Treatment

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Abstract

Background: Cancer can develop at any age, but the incidence of cancer rises dramatically at a later stage in life. Cancer management in older individuals can be complex due to comorbidities and physiological age-related changes. These factors can affect how and when cancer is diagnosed, whether treatment is offered, and how well patients tolerate anticancer therapy. This retrospective study aimed to assess the clinical profiles of elderly cancer patients to optimize cancer care. **Materials and Methods:** This retrospective study included cancer patients who attended our oncology department between 2018 and 2022 and were 65 years and older. Data on cancer type, performance status, intent of treatment, treatment completion, and follow-up status at 3 years were documented and analyzed. **Results:** A total of 230 patients were included in the study. The most common malignancies were head and neck carcinoma and lung cancer, followed by esophageal and colorectal malignancies. Most patients presented with a performance status of 1 (57.8%). The intent of therapy was curative for 49.1% of patients and palliative for 30.1%. At a median follow-up of 36 months, 15% of treated patients were alive without disease and on regular follow-up. **Conclusion:** Head and neck cancer was the most common cancer observed in our study. Elderly cancer patients presented with a good performance status, suggesting that they deserve the same opportunities as younger patients for treatment and survival options.

Keywords: Cancer care- Elderly cancer patients- geriatric- elder- Cancer- Oncology

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Introduction

The number of adults aged 65 years and above is estimated to increase from 524 million in 2010 to 1.5 billion by 2050, and this increase is expected to occur in both developed and developing countries. An increase in global life expectancy from 69.4 to 74.3 years by 2050 is also envisioned [1]. Cancer can develop at any age, but the incidence of cancer rises dramatically at a later stage in life. In fact, in 2020 more than 50% of people who had cancer were 65 or older [2, 3]. Several mechanisms have been postulated to explain the association between aging and cancer. Endogenous oxygen radicals, exogenous stresses, and defective DNA repair lead to genomic instability and act synergistically to promote the development of cancer [4, 5].

Cancer management in older people can be complex; comorbidity and physiologic age-related changes can affect how and when cancer is diagnosed, whether or

not treatment is offered and the individual tolerance to anticancer treatment [4-6]. Moreover, older people are often excluded from randomized controlled trials, and thus evidence relating to the efficacy of cancer treatment in this population is frequently absent or incomplete [7, 8]. The clinical behavior of some tumors changes with age, and the aging process frequently brings physiologic changes that result in a medical comorbidity and decline in organ function [9-12]. Because of these physiologic changes, there is potential for an increase in adverse events associated with cancer treatment.

Patients functional age may differ from their chronological age, and this difference needs to be integrated into the decision-making process for cancer treatment [12]. Some older patients may be as fit as younger patients, others may have a marginal decline in physiologic reserve, and yet others may be frail. It

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is essential to identify those patients who are fit and potentially more resilient because they are more likely to benefit from standard treatment [13, 14]. Therefore, there seems to be a need to integrate and optimize treatment planning for elderly cancer patients to achieve improved tumor control, quality of life, and survival with better health care. This study aimed to assess the clinical profile, treatment, and survival of elderly cancer patients to optimize cancer care for this group.

Materials and Methods

A total of 230 patients aged above 65 years with newly diagnosed cancer between 2018 and 2022 were included in the study. The study has been approved by the Institutional Ethics Committee with consent waiver. The study was designed as a retrospective observational study by collecting information related to age, gender, performance status, intent of treatment, treatment completion and follow-up details.

Each case was initially discussed in the Multi-specialty Board (MSB) which is composed of Surgical Oncologists, Radiation Oncologists, Medical oncologists and Radiologists. A final management protocol was obtained after discussion and was followed. All the patients were followed up every 3 months for assessment of treatment outcome measures.

All the demographic variables will be represented using mean +/- standard deviation. The comparison of the normally distributed data will be done using the Independent T-test and the non-normal data will be analyzed using Mann-Whitney U test, 4 weeks after the treatment. Statistical Analysis was performed using SPSS software version 24. Paired t-test was used to determine the significance. A p value of less than 0.01 is considered significant.

Results

A total of 230 elderly patients of age 65 years or more with biopsy-proven malignancies were available for analysis. The majority 137 (59.56%) were males, while females accounted for 40.4% of cases, totaling 93 cases. The patients in the age group between 65-70 years were predominant in the study. The median age of the patients in our study was 68 years (range 65-88 years). Demographic

Table 1. Demographic Characteristics. P<0.05

Demographic Characteristics		
Gender	n (number)	% (Percentage)
Males	137	59.56
Females	93	40.4
Age (Years)		
65-70	122	53
70-75	59	25.6
75-80	33	14.3
>80	16	6.9
Total	230	100

Table 2. Distribution of Malignancy (P<0.030)

Cancer Sites	Number	Percentage
Head and Neck	66	28.6
Lung	25	10.8
Esophagus	18	8
Colorectum	17	7.4
Cervix	13	5.7
Breast	12	5.2
Stomach	11	4.8
Gallbladder	10	4.3
Other sites	58	25.2
Total	230	100

Table 3. ECOG PS=Eastern Cooperative Oncology Group Performance Status (P<0.001).

PS	N (number)	% (Percentage)
0	18	7.8
1	133	57.8
2	63	27.4
3	14	6.1
4	2	0.9
Total	230	100

Characteristics are described in Table 1.

The data revealed that Carcinoma Head and Neck (n=66) was the prevailing type of cancer in the elderly comprising 28.6% of the total sample size. Carcinoma Buccal Mucosa (9.6%) was the most common site in Head and Neck Cancer. Carcinoma Lung and Carcinoma Esophagus, ranks the third place in our analysis. Table 2 describes the percentage of malignancy distribution in elderly patients.

Maximum number of elderly patients presented at diagnosis were having the ECOG (Eastern Cooperative Oncology Group) Performance Status (PS) of 1 (57.8%). A very few patients were presented with poor PS (PS-3 6.1% and PS-4 0.9%). Table 3 describes the ECOG PS of all the patients.

A total of 113 (49.1%) patients were offered curative treatment and 30% of the patients were offered palliative treatment due to their advanced stage and poor performance status. 20.9% of the total patients either refused treatment or Left Against Medical Advice (LAMA) due to financial constraints and the lack of family support. Of the patients who were offered treatment more than 50% (56.1%) were able to complete the treatment. On follow-up of 3 years, 15.2% are still alive and on regular follow-up.

Discussion

The aging of the general population in developed countries is becoming a major healthcare issue and it is commonly addressed as "Silver Tsunami." Cancer is growing in burden in elderly patients, as almost 80% of the newly diagnosed patients are aged over 55 years and

the median age at diagnosis for most neoplastic conditions is over 60 years [15, 16]. Adjunctively, tumor incidence for the population beyond 65 years has increased 11-fold in comparison to younger adults [17]. The Indian Council of Medical Research National Cancer Registry Program estimates that the number of cancer diagnoses will increase from 1.39 million in 2020 to 1.57 million by 2050 [18].

Elderly patients represent a peculiar setting for cancer therapy, with specific characteristics in terms of comorbid conditions, compliance to treatment, clinical endpoints, and psychological and social issues. Therefore, the optimal therapeutic strategy for elderly patients represents an intriguing clinical challenge. Most of the randomized clinical trials did not enroll older patients because of age limit and particular comorbid conditions as exclusion criteria [19]. This study was aimed to assess the Clinical Profile and Treatment Outcomes in Elderly patients at our institute.

ASCO (American Society of Clinical Oncology) recommendations state that persons aged 65 years and older are considered as elderly [20]. We evaluated patients aged >65 years based on the ASCO guidelines. In our study, the maximum number of patients were aged between 65-70 years.

Advancing age is a risk factor for the development of malignancy, with persons over 65 years accounting for 60% of newly diagnosed malignancies and 70% of cancer deaths. These mainly include cancers of the breast, lung, prostate, cervix, esophagus and ovary [21]. Similarly in our study, the most common malignancies seen were Lung, Esophagus, Head and Neck and Breast. ECOG PS in our study was PS 0 was 7.8%, 1 in 57.8% and 2 in 27.4%. Maximum number of patients in our study was presented with Good PS. Our results are in agreement with a similar study done by A. Chandra et al, who conducted a study on the Quality of Life Among Older Patients with Cancer, which revealed ECOG Performance status of 0-2 in 70.9 % [22].

Various studies show elderly cancer patients were under-represented and under-treated [9, 23, 24]. Around 20% of the patients in our study were refused treatment. The higher likelihood of not receiving standard therapy, the representation of older patients in clinical trials has been poorly evaluated [25]. The elderly were under-represented in the registration trials of new cancer therapies [26]. Possible explanations of underrepresentation and less acceptance of definitive treatment in the elderly group may include lack of appropriate trials, study-imposed restrictions, high burden of co-morbidity, knowledge, patient preferences and social, geographic or financial barriers [27].

In elderly group who received treatment, 41% had completed their treatment. Therefore, in elderly cancer patients, age should not be a barrier and all patients should not be automatically offered conservative or inadequate treatment. Patients who are advised radiotherapy 33% have completed treatment and 22.6% did not complete the treatment. In the Chemotherapy group, 31.7% completed the treatment and 23.9% did not complete the treatment.

Less compliance to chemotherapy and radiotherapy in elderly patients was neither age nor toxicity of chemotherapy. It may be due to the unwillingness of patients or their attendant, poor socio-economic status (poverty, illiteracy, cost of anticancer drugs, etc.) or associated disease conditions. Practically no significant difference was found in the elderly group in terms of performance status, presenting stage and their treatment compliance was comparable with younger patients.

Various studies also support that elderly patients should not be undertreated. Treatment tolerance and toxicities were also not a barrier for cancer treatment and cancer trials in the elderly [28-32]. Age alone should not be a contraindication to the use of optimal cancer treatment in older patients who are in good general health [33].

In conclusion, elderly cancer patients presented with a good performance status, hence they deserve same opportunity as younger patients for treatment and survival options. The patient's needs and preferences are at the core of the decision-making process. However, there is a need to go for a clinical trial with larger number of patients involving elderly for optimizing cancer care continuum of diagnosis, treatment, and survival.

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Statement of Transparency and Principals

- Author declares no conflict of interest

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