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RESEARCH ARTICLE

AGNIKARMA IN THE MANAGEMENT OF AVABAHUKA (FROZEN SHOULDER)

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ABSTRACT

Background: More than 50% of new cases of lung cancer are diagnosed in elderly patients. Does age is a factor for deciding the treatment options? The question remains unsolved even in present era as the median survival time of elderly patients was significantly lower compared with that of younger patients.

Methods: We conducted a cross sectional study using data base of 175 patients of primary lung cancer with age 60 years and above diagnosed in indoor and outdoor of the Department of Radiotherapy at Regional Cancer Centre, RIMS, Manipur, India from January 2011 to December 2015.

Results: The median age at diagnosis was 70years. There were 113 male (64.6%) patients and 62 female (35.4%) patients. The most common radiological presentation was mass (59.4%) followed by collapse-consolidation (22.8%) and pleural effusion (17.8%). Out of 175 patients, 51% of patients had squamous cell carcinoma, adenocarcinoma (33.7%), large cell carcinoma (9.1%) and undifferentiated carcinoma (6%). The median overall survival in patients underwent chemotherapy alone was found to be 17 months, in patients undergone concomitant chemo-radiation was 23 months , in patients underwent radiotherapy alone 16 months, patients underwent targeted therapy 14 months and patients who received best supportive care was 5 months.

Conclusion: Our results allow us to conclude that elderly patients with good performance status are likely to benefit from radical treatments. Concurrent chemo-radiation seems to increase median survival even in elderly population with advanced stage disease.

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INTRODUCTION

In India, lung cancer constitutes 6.9 per cent of all new cancer cases and it is the commonest cancer and cause of cancer related mortality in men (Malik *et al.,* 2015). Non-small-cell lung cancer (NSCLC) is a very common disease in the elderly population and its incidence in this particular population is expected to increase further, because of the ageing of the Western population. Despite this, limited data are available for the treatment of these patients and, therefore, the development of evidence-based treatment recommendations is challenging (Pallis *et al.,* 2014). Age has been recognized as a prognostic factor in multiple cancers treated with definitive intent. In addition to numerous variables that have been reported to be significant prognostic factors in lung cancer, several studies have demonstrated that age is an important independent prognostic factor affecting survival of patients.

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Moreover, elderly patients usually benefit from single and combination chemotherapy regimens. Data on elderly lung cancer patients and the importance of age on survival of lung cancer patients are limited (Tas *et al.,* 2013). In the present study, we aimed to identify and evaluate the known clinico-pathological factors and to elucidate the clinical significance of patient age on the outcome of lung cancer. There is a lack of evidence-based data regarding the appropriate treatment of the elderly. This lack of information is especially relevant in the field of radiotherapy (RT), and has led to an under treatment of patients based on a supposed lack of tolerance to radical treatments. Age does not appear to have an influence on the frequency and severity of acute and late side-effects, so it is not a sufficient reason to exclude patients from curative radiotherapy when it is indicated.

METHODS

A total of 175 patients who satisfied the inclusion and exclusion criteria were enrolled for the study from January 2011 to December 2015. The objective of our study was to

study the clinico-pathological profile and survival pattern in patients with advanced elderly lung cancer patients.

Inclusion criteria

- Age 60 years and above
- Histopathological proven primary lung cancer patients
- AJCC Stage III and Stage IV patients

Exclusion criteria

•Patients with incomplete data

Methodology

We conducted a cross sectional study using data base of 175 patients of primary lung cancer with age group 60 years and above diagnosed in indoor and outdoor of the Department of Radiotherapy at Regional Cancer Centre, RIMS, Manipur, India from January 2011 to December 2015. The cases having doubts about primary origin, incomplete data or metastasis to the lung from other primary sites were excluded. Staging was done according to AJCC staging system based on the available clinical and radiological findings. The patient details and disease characteristics were obtained from the medical records available in our Department. All patients included in the study had undergone routine investigations, comprising of full blood count, blood biochemistry, chest x-ray PA view and sputum cytology. Computed tomography (CT) scan was done for all patients. External Beam Radiation Therapy was delivered by Tele-cobalt 60 (THERATRON 780C).Chemotherapy was delivered using standard chemotherapy protocol. Descriptive statistics was used for describing the data using SPSS version 21 and results were presented in percentage and simple frequency. Survival was assessed by Kaplan Meir survival analysis.

RESULTS

A total of 175 patients were analyzed. Distribution of age varied from 60 to 90 years. The median KPS was found to be 80%. The median age was 70 years. There were 113 male (64.6%) patients and 62 (35.4%) female patients. Maximum patients were found in the age group of 60 to 70 years (56%) followed by 71- 80 years (32%) and more than 80 years (12%). In all the age group male predominance were observed. Of 175 patients, family history of lung cancer was found in 6 patients (3.4%). Past history of bronchial asthma or COPD was seen in 10 patients (5.7%) and past history pulmonary tuberculosis is seen in 39 patients (22.2%). History of smoking was present in 157 patients (89.7%) among which 93 patients (59.2 %) were current smokers and 64 patients (40.8%) were ex-smokers. The combined smoking and alcohol consumption was seen in 59 (33.7%) patients. Cough was the most common symptom found in 53 patients (32.5%) and haemoptysis was least common symptoms observed only in 14 patients (8%). The most common radiological presentation was mass (59.4%) followed by collapse-consolidation (22.8%) and pleural effusion (17.8%). Right lung (60%) was most common site of primary site, followed by left lung (29.7%) and both lung involvement was seen in 10.3%. Out of 175 histologically confirmed diagnoses, 51% of patients had squamous cell carcinoma, adenocarcinoma in 33.7%, large cell carcinoma in 9.1% and 6% undifferentiated carcinoma (Figure : 1) . The mode of diagnosis in these patients were CT guided FNAC in 70% followed by pleural fluid cell block study in 10.9%, FNAC from regional lymph node in 10.1% and bronchoscopy biopsy in 9% of patients. Stage 3 disease was found in 99 patients (56.6%) followed by Stage 4 disease in 76 patients (43.4%). The mode of treatment received is summarized in the table 1. The median survival in elderly lung cancer patients is summarized in table 2.

Table 1. Type of treatment received in elderly lung cancer patients

Type of treatment received	No. of patients (%)
Chemotherapy Alone	42 (24.0%)
• Single agent chemotherapy	10 (23.8%)
• Doublet chemotherapy	32 (76.2%)
Concomitant chemo-radiation	17 (9.7%)
RT alone	28 (16.0%)
Targeted therapy	33 (18.9%)
Best Supportive Care	55 (31.4%)

Table 2. Median survival in elderly lung cancer patients based on treatment received

Type of the treatment received	Median survival
Chemotherapy Alone	17 months
Concomitant chemo-radiation	23 months
RT alone	16 months
Targeted therapy	14 months
Best supportive care	5 months

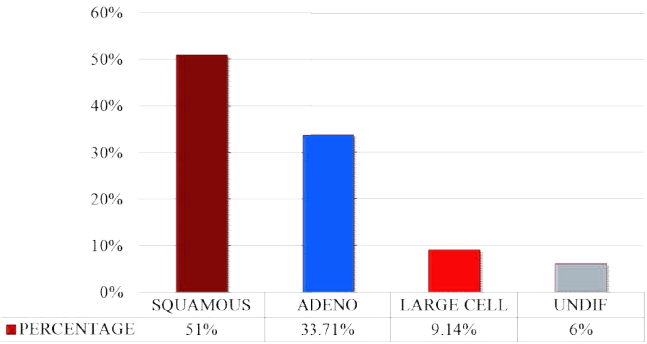

Figure 1. Histopathogical pattern in the elderly lung cancer patients

DISCUSSION

Globally, the population is ageing and the World Health Organisation (WHO) predicts that, by 2050, the population aged 60 years or more will double, whilst those aged 80 years or more will number 400 million persons. Clinical practice guidelines currently do not adequately define 'elderly' persons and provide limited guidance on how to apply treatment recommendations to older persons.[4] The number of older persons with cancer is expected to significantly increase because of the overall aging of the population and the fact that cancer incidence and mortality rises exponentially in the 50–85 year old age groups (Berge *et al.,* 2006). It is projected that by 2020, the population of elderly globally would be more than 700 million with two-third belonging to the developing countries. The scenario will be similar in India. By the year 2020, India will have 11% of the population in the age group of 60 years and above. In the coming decades, a longer life expectancy will lead to a higher cancer burden for elderly people. Moreover, under representation and under treatment of elderly cancer patients is an alarming issue which has not been investigated sufficiently till date particularly in Indian cancer patients (Sarkar and Shahi, 2013). More than 40% of cases of

all lung cancers are diagnosed in patients over the age of 70 years. Elderly patients have more co morbidities and tend to be less tolerant to toxic medical treatments than their younger counterparts (Maione *et al.,* 2010). In our study males were more common affected in all age group, it was similar to study conducted by Vigg *et al* 2003 in elderly patients with lung cancer (Vigg *et al* 2003). It is known fact that smoking is a risk factor for lung cancer, In our study 40.8% were ex-smokers. At age 75, the RR for former smokers compared with current smokers was approximately 45% for those quitting in their early 60s, approximately 20% for those quitting in their early 50s, and less than 10% for those quitting in their 30s (Halpern *et al.,* 1993). Squamous cell carcinoma is most common histopathology observed both in males and females in this study with elderly population. In NSCLC, squamous cell carcinomas are more frequent in older compared with younger patients (Quoix, 2012; Owonikoko *et al.,* 2007). In our study cough is the most common symptom was found similar to study conducted in Hyderabad in contrary to study done in Lucknow shows in older patients, haemoptysis was the most common presenting symptom followed by breathlessness (Vigg *et al.,* 2003; Prasad *et al.,* 2009). In our study haemoptysis is observed only in 10 patients.

Ott CLB et al conducted a study in patients with stage III and IV NSCL treated with chemotherapy , it was found that patients underwent chemotherapy had better survival than did those not so treated (median survival: 64.3 weeks vs. 56.6 weeks). Similarly, patients with stage IV NSCLC who received chemotherapy also survived longer (median survival: 45.8 weeks vs. 26.5 weeks respectively). In our study the median survival was found 17 months (68 weeks) which was found to be similar.The study also pointed out that there is a sub group of patients where chemotherapy was not offered in the elderly age group. That observation suggests that undertreatment of the elderly population is a result of medical decision-making rather than patient preference (Ott *et al.,* 2011). QuoixE conducted a study in elderly patients with advanced non-small cell lung cancer, the study concluded that patients should be treated by chemotherapywhen PS is poor. The carboplatin-based doublet provides survival gain comparedwith a monotherapy in most subgroups of patients (Quoix, 2012). For the treatment of locally advanced NSCLC, the superiority of chemotherapy combined with radiation over radiation alone has been demonstrated in randomized controlled trials. The concurrent approach led to an improvement in median survival of 3 months and led to its standardization as a treatment modality in advanced NSCLC. In our study the median overall survival in patients undergone concomitant chemo-radiation was 23 months versus 16 months in patients received radiation alone.

Langer et al. performed a retrospective analysis of 104 patients and it was found that the median survival was 22.4 monthsfor concurrent therapy with daily radiation, 16.4 months for concurrent therapy with twice daily radiation, and 10.8months for those receiving sequential therapy ($p = 0.069$). It is important to note the inherent selection bias that may have been present with these patients, since only fit elderly patients were included. Yet, this study concluded that elderly patients with NSCLC are candidates for combined modality therapy (Vora, 2008).

Various targeted agents like Erlotinib, Gefitinib are been used in treatment of elderly lung cancer patients. Clear expansion has been noted in the sector of molecular-targeted therapy for elderly patients with advanced NSCLC, from which a steady stream of novel data from the experience gained in clinical practice and the conclusions of ongoing studies is expected (Antonelli *e al.,* 2016). Concern for treatment-related toxicities seen in chemotherapeutic clinical trials in the elderly population has led the search of an effective, less toxic therapy in advanced NSCLC. The emergence of targeted therapies for lung cancer has provided the potential for more tolerable therapy. Erlotinib, an orally available tyrosine kinase inhibitor of the epidermal growth factor receptor, has shown a survival advantage when compared with best supportive care in a randomized, phase III trial for patients as second- or third-line treatment of advanced NSCLC. The median survival time of 10.9 months compares favourably with the survival seen in elderly patients receiving single agent chemotherapy (Rocha-Lima *et al.,* 2009). Wao Het al analysed the survival of patients with non-small cell lung cancer without treatment, the study concluded that the systematic evaluation of evidence on prognosis of NSCLC without treatment shows that mortality is very high. Untreated lung cancer patients live on average for 7.15months (Wao *et al.,* 2013). The elderly are a complex patient group with increasing co-morbidity and shrinking physiological reserve. Careful selection of individual patients through optimal work up and tailoring proposed treatments to accommodate co-morbidities and the likely prognosis can allow us to provide effective management of this challenging disease (Booton *et al.,* 2003).

Conclusion

Our results allow us to conclude that elderly patients with good performance status are likely to benefit from radical treatments. Concurrent chemo-radiation seems to increase median survival even in elderly population with advanced stage disease.

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